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VOL. XL.

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FOR THE YEAR 1898.

WITH A LIST OF OFFICERS, FELLOWS, ETC.

EDITED BY
JOHN PHILLIPS, M.A., M.D., SENIOR SECRETARY,
AND
PERCY BOULTON, M.D.

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1888† CORBY, HENRY, B.A., M.D., 19, St. Patrick's place, Cork.

1875*†CORDES, AUG., M.D., M.R.C.P., Consulting Accoucheur to the "Miséricorde;" Privat Docent for Midwifery at the University of Geneva; 12, Rue Bellot, Geneva. *Trans.* 1.

1883 CORNER, CURSHAM, 113, Mile End road, E.

Elected

1886† Cox, Joshua John, M.D. Ed., St. Ronan's, Clarendon road, Eccles, Manchester.

1877 Crawford, James, M.D. Durh., Grosvenor Mansions, 80, Victoria street, S.W.

1896† Creasy, Rolf, L.R.C.P. Lond., Windlesham, Surrey.

1876† Crew, John, Manor House, Higham Ferrers, Northamptonshire.

1893 Cripps, William Harrison, F.R.C.S., Surgeon to St. Bartholomew's Hospital; 2, Stratford place, W. *Trans.* 1.

1889† Croft, Edward Octavius, L.R.C.P. Lond., 8, Clarendon road, Leeds.

1881*†Cronk, Herbert George, M.B. Cantab., Repton, near Burton-on-Trent.

1893 Crosby, Herbert Thomas, M.A., M.B., B.C.Cantab., 19, Gordon square, W.C.

1895 Cross, Ernest W., L.R.C.P.Lond., The Limes, Wallwood Park, Leytonstone.

1886*†Cross, William Joseph, M.B., Horsham, Victoria, Australia.

1898† Cullen, Thomas, M.D.Toronto, Johns Hopkins Hospital, Baltimore, U S.A.

1875* Cullingworth, Charles James, M.D., D.C.L., F.R.C.P., Obstetric Physician to, and Lecturer on Obstetric Medicine at, St. Thomas's Hospital; 14, Manchester square, W. *Council*, 1883-5, 1891-3. *Vice-Pres.* 1886-8. *Board Exam. Midwives*, 1889-91. *Chairman*, 1895-6. *Pres.* 1897-8. *Trans.* 13.

1889*†Cursetji, Jehángir J., M.D. Brux., 94, Chundunwádi, Bombay.

1894 Cutler, Lennard, L.R.C.P.Lond., 1, Kensington Gate, Kensington, W. *Trans.* 1.

1885 Dakin, William Radford, M.D., B.S., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery at, St. George's Hospital; 18, Grosvenor street, W. *Council*, 1889-91. *Hon. Lib.* 1892-3. *Hon. Sec.* 1894-7. *Vice-Pres.* 1898-9. *Trans.* 3.

Elected

1868 DALY, FREDERICK HENRY, M.D., 185, Amhurst road, Hackney Downs, N.E. *Council*, 1877-9. *Vice-Pres.* 1883-5. *Trans.* 2.

1882† DAMBRILL-DAVIES, WILLIAM R., Alderley Edge, Cheshire.

1893 DAUBER, JOHN HENRY, M.A. Oxon., M.B., B.Ch., Physician to the Hospital for Women, Soho square; 29, Charles street, Berkeley square, W.

1892† DAVIS, ROBERT, Darrickwood, Orpington, Kent.

1895 DAVOREN, JOHN, L.R.C.P.I., C.M., 95, Mitcham lane, Streatham, S.W.

1877 DAVSON, SMITH HOUSTON, M.D., Campden villa, 203, Maida vale, W. *Council*, 1889-91.

1891 DAWSON, ERNEST, L.R.C.P.Lond., Linden House, High road, Leyton, E.

1889 DES VŒUX, HAROLD A., M.D.Brux., 8, James street, Buckingham gate, S.W. *Council*, 1896-8.

1894 DICKINSON, THOMAS VINCENT, M.D. Lond., 33, Sloane street, S.W.

1894 DICKSON, JOHN WILLIAM, B.A., M.B., B.C. Cantab., 42, Hertford street, Mayfair, W.

1895 DODGSON, GEORGE STANLEY, B.A., M.B., B.C.Cantab., Southleigh, Headingley, Leeds.

1886† DONALD, ARCHIBALD, M.D. Edin., M.R.C.P., Obstetric Physician to the Royal Infirmary, Manchester; Honorary Surgeon to St. Mary's Hospital for Women, Manchester; Platt Abbey, Rusholme, Manchester. *Council*, 1893-5. *Trans.* 1.

1879* DORAN, ALBAN H. G., F.R.C.S., Surgeon to the Samaritan Free Hospital; 9, Granville place, Portman square, W. *Council*, 1883-5. *Hon. Lib.* 1886-7. *Hon. Sec.* 1888-91. *Vice-Pres.* 1892-4. *Pres.* 1899. *Trans.* 18.

1890† DOUTY, EDWARD HENRY, M.A., M.B., B.C.Cantab., Davos Platz, Switzerland.

1887 DOVASTON, MILWARD EDMUND, Hova House, Hove, Brighton.

Elected

1896 DOWNES, J. LOCKHART, M.B., C.M. Edin., 27, Romford road, E.

1884† DOYLE, E. A. GAYNES, L.R.C.P., Colonial Hospital, Port of Spain, Trinidad.

1871† DRAKE-BROCKMAN, EDWARD FORSTER, F.R.C S., L.R.C.P. Lond., Brigade-Surgeon; c/o Messrs. Richardson and Co., East India Army Agency, 25, Suffolk street, Pall Mall, S.W.

1894† DREW, HENRY WILLIAM, F.R.C.S., Eastgate, East Croydon.

1883 DUNCAN, ALEXANDER GEORGE, M.B., 25, Amhurst park, Stamford hill, N.

O.F. DUNCAN, JAMES, M.B., 8, Henrietta street, Covent garden, W.C. *Council*, 1873-4. *Vice-Pres.* 1895.

1882 DUNCAN, WILLIAM, M.D., Obstetric Physician to, and Lecturer on Obstetric Medicine at, the Middlesex Hospital; 6, Harley street, W. *Council*, 1885-6, 1888-9. *Hon. Lib.* 1890-1. *Hon. Sec.* 1892-5. *Vice-Pres.* 1896-9. *Trans.* 2.

1871* EASTES, GEORGE, M.B., F.R.C.S., 35, Gloucester terrace, Hyde park, W. *Council*, 1878-80.

1896 EASTON, FRANK EDWARD, L.R.C.P. Lond., 12, Devonport street, Hyde park, W.

1883† ECCLES, F. RICHARD, M.D., Professor of Gynæcology, Western University; 1, Ellwood place, Queen's avenue, London, Ontario, Canada.

1893 EDEN, THOMAS WATTS, M.D., M.R.C.P. Edin., 49, Queen Anne street, W. *Council*, 1897-9. *Trans.* 3.

1890 EHRMANN, ALBERT, L.R.C.P.Lond., 6, The Terrace, Camden square, N.W.

1894 ELLIS, ROBERT KINGDON, M.B., B.Ch.Oxon., Lowdham, Notts.

1873*†ENGELMANN, GEORGE JULIUS, A.M., M.D., 336, Beacon street, Boston, Mass., U.S.A.

Elected

1898† Evans, David J., M.D.McGill, 939, Dorchester street, Montreal.

1897 Evans, Evan Laming, M.B., B.C.Cantab., 4e, Hyde Park Mansions, W.

1892† Evans, John Morgan, L.R.C.P.Lond., Llandrindod Wells, Radnorshire.

1875† Ewart, John Henry, Eastney, Devonshire place, Eastbourne.

1894 Fairweather, David, M.A., M.B., C.M.Edin., 2, Nightingale road, Wood Green, N.

1876† Farncombe, Richard, 183, Belgrave road, Balsall heath, Birmingham.

1869* Farquhar, William, M.D., Deputy Surgeon-General, 40, Westbourne gardens, Bayswater, W.

1861 Farr, Geo. F., L.R.C.P. Ed., Slade House, 175, Kennington road, S.E. *Council*, 1885.

1882† Farrar, Joseph, M.D., Gainsborough. *Trans.* 1.

1894† Fazan, Charles Herbert, L.R.C.P. Lond., Belmont, Wadhurst, Sussex.

1868* Fegan, Richard, M.D., Westcombe park, Blackheath, S.E.

1886 Fennell, David, L.K.Q.C.P.I., "Castlebar," 116, Palace road, Tulse hill, S.W.

1883 Fenton, Hugh, M.D., Physician, Chelsea Hospital for Women; 27, George street, Hanover square, W.

1893 Ferguson, George Gunnis, M.B., C.M.Glas., 62, Holmdale road, West Hampstead, N.W.

1893† Finley, Harry, M.D.Lond., Wimborne Minster, Dorset.

1892† Finny, W. Evelyn St. Lawrence, M.B. Dubl., Kenlis, Queen's road, Kingston hill.

1877*†Fonmartin, Henry de, M.D., 26, Newberry terrace, Lower Bullar street, Nichols Town, Southampton.

1884† Ford, Alexander, L.R.C.P.Ed., 6, Otteran place, Waterford.

Elected

1877*†Ford, James, M.D., Rillside, Exmouth, Devon.

1897† Fothergill, W. E., M.B., C.M.Edin., 200, Oxford road, Manchester.

1884 Fouracre, Robert Perriman, 58, Tollington park, N.

1886† Fowler, Charles Owen, M.D., Cotford House, Thornton heath.

1898 Frampton, Trevethan, M.R.C.S., L.R.C.P., 168, Gloucester terrace, Hyde park, W.

1875*†Fraser, Angus, M.D., Physician and Lecturer on Clinical Medicine to the Aberdeen Royal Infirmary; 232, Union street, Aberdeen. *Council*, 1897-9.

1888† Fraser, James Alexander, L.R.C.P. Lond., Western Lodge, Romford.

1883 Fuller, Henry Roxburgh, M.D. Cantab., 45, Curzon street, Mayfair, W. *Council*, 1893. *Trans.* 1.

1886† Furner, Willoughby, F.R.C.S., 13, Brunswick square, Brighton. *Council*, 1894-6. *Hon. Loc. Sec.*

1874* Galabin, Alfred Lewis, M.A., M.D., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery at, Guy's Hospital; 49, Wimpole street, Cavendish square, W. *Council*, 1876-8. *Hon. Lib.* 1879. *Hon. Sec.* 1880-3. *Vice-Pres.* 1884. *Treas.* 1885-8. *Pres.* 1889-90. *Trans.* 12.

1888 Galloway, Arthur Wilton, L.R.C.P. Lond., 79, New North road, N.

1863* Galton, John H., M.D., Chunam, Sylvan road, Upper Norwood, S.E. *Council*, 1874-6, 1891-2. *Vice-Pres.* 1895-8.

1881 Gandy, William, Hill Top, Central hill, Norwood, S.E. *Council*, 1897-8.

1886*†Garde, Henry Croker, F.R.C.S. Edin., Maryborough, Queensland.

1887 Gardiner, Bruce H. J., L.R.C.P. Ed., Gloucester House, Barry road, East Dulwich, S.E.

Elected

1894 GARDNER, H. BELLAMY, M.R.C.S., L.R.C.P.Lond., 52, Beaumont street, Weymouth street, W.

1879† GARDNER, JOHN TWINAME, Northfield House, Ilfracombe.

1872*†GARDNER, WILLIAM, M.A., M.D., Professor of Gynæcology, McGill University; Gynæcologist to the Royal Victoria Hospital; 109, Union avenue, Montreal, Canada.

1876† GARNER, JOHN, 21, Easy row, Birmingham.

1891† GARRETT, ARTHUR EDWARD, L.R.C.S., & L.M.Ed., Whitacre Lodge, Leamington.

1873*†GARTON, WILLIAM, M.D., F.R.C.S., Inglewood, Aughton, near Ormskirk.

1889* GELL, HENRY WILLINGHAM, M.A., M.B. Oxon., 36, Hyde park square, W.

1898† GEMMELL, JOHN EDWARD, M.B., C.M.Edin., 12, Rodney street, Liverpool.

1859* GERVIS, HENRY, M.D., F.R.C.P., Consulting Obstetric Physician to St. Thomas's Hospital; 40, Harley street, Cavendish square. *Council*, 1864-6, 1889-91, 1893. *Hon. Sec.* 1867-70. *Vice-Pres.* 1871-3. *Treas.* 1878-81. *Pres.* 1883-4. *Trans.* 8.

1866* GERVIS, FREDERICK HEUDEBOURCK, 1, Fellows road, Haverstock hill, N.W. *Council*, 1877-9. *Vice-Pres.* 1892. *Trans.* 1.

1875 GIBBINGS, ALFRED THOMAS, M.D., 93, Richmond road, Dalston, N.E. *Council*, 1885-6, 1888.

1883* GIBBONS, ROBERT ALEXANDER, M.D., Physician to the Grosvenor Hospital for Women and Children; 29, Cadogan place, S.W. *Council*, 1889-90. *Trans.* 1.

1894 GIBSON, HENRY WILKES, L.R.C.P. Lond., 11, College crescent, South Hampstead, N.W.

1874† GIBSON, JAMES EDWARD, Hillside, West Cowes, Isle of Wight.

1892 GILES, ARTHUR EDWARD, M.D. Lond., M.R.C.P., Physician to Out-patients, Chelsea Hospital for Women; 37, Queen Anne street, Cavendish square, W. *Council*, 1898-9. *Trans.* 7.

Elected

1869 GILL, WILLIAM, L.R.C.P. Lond., 11, Russell square, W.C.

1891 GIMBLETT, WILLIAM HENRY, M.D.Durh., Queen's road, Buckhurst hill, Essex.

1894† GODDARD, CHARLES ERNEST, L.R.C.P. Lond., Wembley, Harrow.

1871 GODDARD, EUGENE, M.D. Durh., North Lynne, 106, Highbury New Park, N. *Trans.* 1.

1871 *GODSON, CLEMENT, M.D., C.M.; 9, Grosvenor street, W. *Council*, 1876-7. *Hon. Sec.* 1878-81. *Vice-Pres.* 1882-4. *Board Exam. Midwives*, 1877, 1882-86. *Trans.* 5.

1893† GOODMAN, ROGER NEVILLE, M.A., M.B.Cantab., Elmside, Kingston-on-Thames.

1893† GORDON, FREDERICK WILLIAM, L.R.C.P.Lond., Manukau road, Auckland, New Zealand.

1883 GORDON, JOHN, M.D., 63, Cheapside, E.C.

1869† GOSS, TREGENNA BIDDULPH, 1, The Circus, Bath. *Hon. Loc. Sec.*

1891† GOSTLING, WILLIAM AYTON, M.D., B.S.Lond., Barningham, West Worthing.

1889 GOULLET, CHARLES ARTHUR, L.R.C.P.Lond., 2, Finchley road, N.W.

1890 GOW, WILLIAM JOHN, M.D.Lond., Physician-Accoucheur in charge of Out-patients, St. Mary's Hospital; 27, Weymouth street, W. *Council*, 1893-5. *Board Exam. Midwives*, 1898-9. *Trans.* 2.

1893† GOWAN, BOWIE CAMPBELL, L.R.C.P.Lond., Raven Dene, Great Stanmore.

1893 GRANT, LEONARD, M.D.Edin., 9, Western villas, New Southgate, N.

1897 GRANT-WILSON, CHARLES WESTBROOKE, L.R.C.P.Lond., Heathfield House, Streatham common.

1890† GRAY, HARRY ST. CLAIR, M.D. Glas., 25, Lynedoch street, Glasgow.

1875† GRAY, JAMES, M.D., 15, Newton terrace, Glasgow.

Elected

1890 GREEN, CHARLES DAVID, M.D.Lond., Addison House, Upper Edmonton.

1894† GREEN, CHARLES ROBERT MORTIMER, Captain, Indian Medical Service, The Eden Hospital, Calcutta.

1887 GREENWOOD, EDWIN CLIMSON, L.R.C.P., 19, St. John's wood park, N.W.

1863 *GRIFFITH, G. DE GORREQUER, 34, St. George's square, S.W. *Trans.* 2.

1879* GRIFFITH, WALTER SPENCER ANDERSON, M.D. Cantab., F.R.C.S., F.R.C.P., Assistant Physician-Accoucheur to St. Bartholomew's Hospital; 96, Harley street, W. *Council*, 1886-8, 1893-5. *Hon. Lib.*, 1896-7. *Board Exam. Midwives*, 1887-9. *Trans.* 9.

1870 *GRIGG, WILLIAM CHAPMAN, M.D., Physician to the In-patients, Queen Charlotte's Lying-in Hospital; 27, Curzon street, Mayfair. *Council*, 1875-7. *Board Exam. Midwives*, 1878-9.

1888*†GRIMSDALE, THOMAS BABINGTON, B.A., M.B. Cantab., Surgeon to the Hospital for Women, and Medical Officer to the Liverpool Lying-in Hospital; 29, Rodney street, Liverpool.

1882† GRIPPER, WALTER, M.B. Cantab., The Poplars, Wallington, Surrey.

1880 GROGONO, WALTER ATKINS, Berwick House, Broadway, Stratford, E.

1896† GROVES, ERNEST W., M.B., B.Sc., Kingswood, Bristol.

1892 GUBB, ALFRED SAMUEL, M.D. Paris, 29, Gower street, W.C.

1887† HACKNEY, JOHN, M.D. St. And., Oaklands, Hythe.

1881† HAIR, JAMES, M.D., Brinklow, Coventry.

1889 HALE, CHARLES D. B., M.D., 3, Sussex place, Hyde park, W.

1880 HAMES, GEORGE HENRY, F.R.C.S., 29, Hertford street, Park lane, W.

Elected

1894 HAMILTON, BRUCE, L.R.C.P.Lond., "Falklands," 9, Frognal, N.W.

1894† HAMILTON, DAVID LIVINGSTON, L.R.C.P. Edin., 260, Oxford road, Manchester.

1887† HAMILTON, JOHN, F.R.C.S.Ed., Beechhurst House, Swadlincote, Burton-on-Trent.

1883 HANDFIELD-JONES, MONTAGU, M.D. Lond., M.R.C.P., Physician-Accoucheur to, and Lecturer on Midwifery and Diseases of Women at, St. Mary's Hospital; 35, Cavendish square, W. *Council*, 1887-9, 1896-7. *Board Exam. Midwives*, 1894-6. *Trans.* 1.

1889† HARDWICK, ARTHUR, M.D. Durh., Newquay, Cornwall.

1886† HARDY, HENRY L. P., Holly Lodge, Richmond road, Kingston-on-Thames.

1892 HAROLD, JOHN, L.R.C.P.Lond., 91, Harley street, W.

1889 HARPER, CHARLES JOHN, L.R.C.P. Lond., Church end, Finchley, N.

1877 HARPER, GERALD S., M.B.Aber., 40, Curzon street, Mayfair, W. *Council*, 1894-5.

1898† HARPER, JOHN ROBINSON, L.R.C.P., 3, Union terrace, Barnstaple, Devon.

1878† HARRIES, THOMAS DAVIES, F.R.C.S., Grosvenor House, Aberystwith, Cardiganshire.

1867* HARRIS, WILLIAM H., M.D., 32, Cambridge gardens, W.

1880* HARRISON, RICHARD CHARLTON, 19, Uxbridge road, Ealing, W.

1890† HART, DAVID BERRY, M.D.Edin., Assistant Gynæcologist, Royal Infirmary, Edinburgh; 29, Charlotte square, Edinburgh.

1886† HARTLEY, HORACE, L.R.C.P. Ed., Stone, Staffordshire.

1886 HARTLEY, REGINALD, M.D. Durh., F.R.C.S.Ed., 63, Porchester terrace, Hyde park, W.

1894 HARTZHORNE, BERNARD FRED., M.R.C.S., Blenheim Lodge, High road, Chiswick.

Elected

1893† HARVEY, JOHN JORDAN, L.R.C.P. & S.Edin., 54, Barking road, Canning Town, E.

1880 HARVEY, JOHN STEPHENSON SELWYN, M.D.Durh., M.R.C.P., 1, Astwood road, Cromwell road, S.W.

1865† HARVEY, ROBERT, M.D., Abbottabad, Punjab. [Per Messrs. Cochran and Macpherson, 152, Union street, Aberdeen.] *Trans.* 1.

1892† HAWKINS-AMBLER, GEORGE ARTHUR, F.R.C.S.Ed., 67, Rodney street, Liverpool.

1888† HAYCOCK, HENRY EDWARD, L.R.C.P.Ed., Ironville House, Alfreton, Derbyshire.

1893† HAYDON, THOMAS HORATIO, M.B., B.C. Cantab., 22, High street, Marlborough.

1873 HAYES, THOMAS CRAWFORD, M.A., M.D., F.R.C.P., Obstetric Physician to King's College Hospital, and Professor of Obstetric Medicine at King's College; 17, Clarges street, Piccadilly, W. *Council,* 1876-8, 1899. *Vice-Pres.* 1890-1.

1880 HEATH, WILLIAM LENTON, M.D., 90, Cromwell road, Queen's gate, S.W. *Council,* 1891. *Trans.* 1.

1892† HELLIER, JOHN BENJAMIN, M.D.Lond., Lecturer on Diseases of Women and Children, Yorkshire College; Surgeon to the Hospital for Women and Children, Leeds; 1, De Grey terrace, Leeds.

1890† HELME, T. ARTHUR, M.D.Edin., 258, Oxford road, Manchester.

1867† HEMBROUGH, JOHN WILLIAM, M.D., The Moot Hall, Newcastle-on-Tyne.

1876* HERMAN, GEORGE ERNEST, M.B., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery at, the London Hospital; 20, Harley street, Cavendish square, W. *Council,* 1878-9, 1898-9. *Hon. Lib.* 1880-1. *Hon. Sec.* 1882-5. *Vice-Pres.* 1886-7. *Board Exam. Midwives,* 1886-8. *Treas.* 1889-92. *Pres.* 1893-4. *Trans.* 29.

1892† HILLS, THOMAS HYDE, L.R.C.P.Lond., 7, St. Peter's terrace, Cambridge.

Elected

1898 HINDLEY, GODFREY D., L.R.C.P.Lond., 69, Queen's Road, Dalston, N.E.

1886† HODGES, HERBERT CHAMNEY, L.R.C.P.Lond., Watton, Herts. *Trans.* 1.

1886† HOLBERTON, HENRY NELSON, L.R.C.P.Lond., East Molesey.

1875 HOLLINGS, EDWIN, M.D., 22, Endsleigh gardens, N.W. *Council*, 1888-90. *Vice-Pres.* 1893-4.

1897 HOLLINGS, GUY BERTRAM, M.B., B.S., 22, Endsleigh gardens, N.W.

1859 HOLMAN, CONSTANTINE, M.D., 26, Gloucester place, Portman square, W. *Council*, 1867-9, 1895-6. *Vice-Pres.* 1870-1.

1891† HOLMAN, ROBERT COLGATE, Whithorne House, Midhurst, Sussex.

1864* HOOD, WHARTON PETER, M.D., 11, Seymour street, Portman square, W.

1896† HOPKINS, GEORGE HERBERT, F.R.C.S., 3, North Quay, Brisbane, Queensland.

1884 HOPKINS, JOHN, L.R.C.P.Ed., Hamlet Court road, West Cliff, Southend-on-Sea.

1883* HORROCKS, PETER, M.D., F.R.C.P. Lond., Assistant Obstetric Physician to Guy's Hospital ; 45, Brook street, W. *Council*, 1886-7. *Hon. Lib.* 1888-9. *Hon. Sec.* 1890-3. *Vice-Pres.* 1894-6. *Trans.* 2.

1876 HORSMAN, GODFREY CHARLES, 22, King street, Portman square, W.

1883 HOSKIN, THEOPHILUS, L.R.C.P. Lond., 1, Amhurst park, N.

1883 HOUCHIN, EDMUND KING, L.R.C.P. Ed., Durham House, Stepney, E.

1884† HOUGH, CHARLES HENRY, Full street, Derby.

1877* HOWELL, HORACE SYDNEY, M.D., East Grove House, 18, Boundary road, St. John's Wood, N.W.

1879† HUBBARD, THOMAS WELLS, Barming place, Maidstone.

Elected

1884*†HURRY, JAMIESON BOYD, M.D. Cantab., 43, Castle street, Reading. *Council*, 1887-9. *Vice.-Pres.* 1897-9. *Trans.* 2.

1878* HUSBAND, WALTER EDWARD, Grove Lea, Lansdown, Bath.

1895 HUXLEY, HENRY, L.R.C.P.Lond., 39, Leinster gardens, Hyde park, W.

1894† ILOTT, HERBERT JAMES, M.D. Aber., 57, High street, Bromley, Kent.

1883† INMAN, ROBERT EDWARD, Gadshill Cottage, Higham, Kent.

1884† IRWIN, JOHN ARTHUR, M.A., M.D., 14, West Twenty-ninth street, New York.

1883† JACKSON, GEORGE HENRY, Ashburton, Carew road, Eastbourne.

1897 JÄGER, HAROLD, M.B. Lond., 6, Darnley road, Royal crescent, W.

1873† JAKINS, WILLIAM VOSPER, L.R.C.P. Ed., 14, Collins street East, Melbourne.

1872† JALLAND, ROBERT, Horncastle, Lincolnshire. *Trans.* 1.

1890† JAMES, CHARLES HENRY, L.R.C.P.Lond., Captain, Indian Medical Service; Lahore, Punjab, India.

1895† JAMES, STANLAKE, Violet hill, Simla, India.

1883*†JENKINS, EDWARD JOHNSTONE, M.D. Oxon., 213, Macquarie street, Sydney.

1877† JENKS, EDWARD W., M.D., 84, Lafayette avenue, Detroit, Michigan, U.S.

1882 JENNINGS, CHARLES EGERTON, M.D. Durh., F.R.C.S. Eng., Assistant Surgeon to the North-West London Hospital; 48, Seymour street, Portman square, W.

1877† JOHNSON, SAMUEL, M.D., 5, Hill street, Stoke-upon-Trent.

1894 JOHNSTONE, R. W., M.D., B.Ch., 175, New Bond street, W.

1868† JONES, EVAN, Ty-Mawr, Aberdare, Glamorganshire. *Council*, 1886-8. *Vice.-Pres.* 1890-1. *Hon. Loc. Sec.*

1894 JONES, EVAN, L.R.C.P. Lond., 89, Goswell road, E.C.

Elected

1895† JONES, GEORGE HORATIO, Deddington, Oxon.

1881† JONES, JAMES ROBERT, M.B., 247, Donald street, Winnipeg, Manitoba, Canada.

1894† JONES, JOHN ARNALLT, L.R.C.P. Lond., Heathmont, Aberavon, Port Talbot, Glamorganshire.

1887† JONES, J. TALFOURD, M.B. Lond., Consulting Physician to the Breconshire Infirmary, Rose Bank, South terrace, Eastbourne.

1886 JONES, LEWIS, M.D., Oakmead, Balham, S.W.

1885† JONES, P. SYDNEY, M.D., 16, College street, Hyde park, Sydney. [Per Messrs. D. Jones and Co., 122 and 124, Wool Exchange, Basinghall street, E.C.]

1873† JONES, PHILIP W., River House, Enfield.

1886† JONES, WILLIAM OWEN, The Downs, Bowdon, Cheshire.

1879† JOUBERT, CHARLES HENRY, M.B. Lond., F.R.C.S. Eng. Lieut.-Col., Indian Medical Service, Bengal; Obstetric Physician to Eden Hospital, and Professor of Midwifery and Diseases of Women and Children, Calcutta Medical College; 6, Harington street, Calcutta.

1884 KEATES, WILLIAM COOPER, L.R.C.P., 22, East Dulwich road, S.E.

1883† KEELING, JAMES HURD, M.D., 267, Glossop road, Sheffield. *Hon. Loc. Sec.*

1896 KEEP, ARTHUR CORRIE, M.D., C.M.Edin., Surgeon to Outpatients, Samaritan Free Hospital; 14, Gloucester place, Portman square, W.

1890 KEITH, SKENE, M.B., C.M.Edin., 42, Charles street, Berkeley Square, W.

1894 KELLETT, ALFRED FEATHERSTONE, M.B., B.C.Cantab., 142, Lewisham road, S.E.

1874* KEMPSTER, WILLIAM HENRY, M.D., Chesterfield, Clapham common, North side, S.W.

Elected

1886 KENNEDY, ALFRED EDMUND, L.R.C.P. Ed., Chesterton House, Plaistow, E.

1879 KER, HUGH RICHARD, L.R.C.P.Ed., Tintern, 2, Balham hill, S.W.

1895† KERR, JOHN MARTIN MUNRO, M.B., C.M.Glasg., 28, Berkeley terrace, Glasgow.

1877*†KERSWILL, JOHN BEDFORD, M.R.C.P. Ed., Fairfield, St. German's, Cornwall.

1878† KHORY, RUSTONJEE NASERWANJEE, M.D., M.R.C.P., Medical Syndic, Bombay University; Honorary Physician, Bai Motlibai Obstetric and Gynæcological Hospital; Hormazd Villa, Khumballa hill, Bombay.

O.F.* KIALLMARK, HENRY WALTER, 5, Pembridge gardens, Bayswater. *Council*, 1879-80.

1892† KINGSCOTE, ERNEST, M.B., C.M.Edin., 31, Lower Seymour street, Portman square, W.

1872* KISCH, ALBERT, 61, Portsdown road, W. *Council*, 1896-7.

1876† KNOTT, CHARLES, M.R.C.P. Ed., Liz Ville, Elm grove, Southsea.

1889 LAKE, GEORGE ROBERT, 177, Gloucester terrace, Hyde park, W.

1867* LANGFORD, CHARLES P., Sunnyside, Hornsey lane, N.

1875† LAWRENCE, ALFRED EDWARD AUST, M.D., Consulting Professor of Midwifery and Diseases of Women, University College, Bristol; Physician-Accoucheur to the Bristol General Hospital; 19, Richmond hill, Clifton, Bristol. *Council*, 1885-6, 1888. *Vice-Pres.*, 1889-90. *Hon. Loc. Sec. Trans.* 1.

1894† LEA, ARNOLD W. W., M.D., B.S.Lond., F.R.C.S., Lecturer on Midwifery and Diseases of Women, Owens College; 274, Oxford road, Manchester. *Trans.* 2.

1898 LEA, FRANCIS JAMES, M.R.C.S.Eng., 62, Princes road, Holland park, W.

1894† LEAHY, ALBERT WILLIAM DENIS, M.D. Durh., F.R.C.S., 6, Elysium road, Calcutta.

Elected

1884*†Lediard, Henry Ambrose, M.D., 35, Lowther street, Carlisle. *Council*, 1890-2. *Trans.* 1.

1894† Lee, Sidney Herbert, B.A., M.B., B.C.Cantab., The Moat, Thame, Oxon.

1897 Leslie, William Murray, M.D. Edin., 67, Grosvenor street, W.

1885 Lewers, Arthur H. N., M.D. Lond., M.R.C.P., Obstetric Physician to the London Hospital; 72, Harley street, W. *Council*, 1887-9, 1893. *Board Exam. Midwives* 1895-7. *Trans.* 10.

1885† Lidiard, Sydney Robert, M.D., Park View House, Falmouth.

1894 Livermore, William Leppingwell, L.R.C.P. Lond., 52, Stapleton Hall road, Stroud green, N.

1872*†Lock, John Griffith, M.A., 2, Rock terrace, Tenby.

1893† Logan, Roderic Robert Walter, Church street, Ashby-de-la-Zouch.

1859† Lombe, Thomas Robert, M.D., Bemerton, Torquay.

1894† Loos, William Christopher, L.R.C.P. Lond., c/o Union Steamship Co., Ltd., Southampton.

1890 Low, Harold, M.B.Cantab., 10, Evelyn gardens, South Kensington.

1893† Lowe, Walter George, M.D. Lond., F.R.C.S., Burton-on-Trent.

1878*†Lycett, John Allan, M.D., Gatcombe, Surgeon to the Wolverhampton and District Hospital for Women, Wolverhampton.

1896† Lyons, A., M.B., Thames Ditton.

1871† McCallum, Duncan Campbell, M.D., Emeritus Professor, McGill University; 45, Union avenue, Montreal, Canada. *Trans.* 4.

1890 McCann, Frederick John, M.D., C.M.Edin., M.R.C.P., Physician to Out-patients at the Samaritan Hospital; 5, Curzon street, Mayfair, W. *Council*, 1897-8. *Trans.* 3.

Elected

1894† McCausland, Albert Stanley, M.D. Brux., Church Hill House, Swanage.

1890 McCaw, John Dysart, M.D., F.R.C.S., Ivy House, Lincoln road, East Finchley, N. *Council*, 1898-9.

1894† McDonnell, Æneas John, M.D., Ch.M. Sydney, Toowoomba, Queensland.

1896 M'Donnell, W. Campbell, L.R.C.P. Lond., Park House, Park lane, Stoke Newington, N.

1892† McKay, W. J. Stewart, M.B., M.Ch.Sydney, Australian Club, Macquarie street, Sydney, N.S.W.

1897† McKerron, Robert Gordon, M.B. Aberd., 1, Albyn place, Aberdeen. *Trans.* 1.

1894† McKisack, Henry Lawrence, M.D.Dubl., 15, College square east, Belfast.

1893 Maclean, Ewen John, M.D., C.M.Edin., 23, Henrietta street, Cavendish square, W.

1886 McMullen, William, L.K.Q.C.P.I., 319a, Brixton road, S.W.

1878 Macnaughton-Jones, H., M.D., F.R.C.S.I. and Edin., 141, Harley street, Cavendish square, W. *Trans.* 1.

1898 Macnaughton-Jones, Henry, M.B., B.Ch., 29, Charles street, Berkeley square, W.

1894† McOscar, John, L.R.C.P. Lond., Hazelmere, Goldsworth road, Woking, Surrey.

1895† Maidlow, William Harvey, M.D.Durh., F.R.C.S.Eng., Ilminster, Somerset.

1884 Malcolm, John D., M.B., C.M., Surgeon to the Samaritan Free Hospital; 13, Portman street, W. *Council*, 1894-6.

1871† Malins, Edward, M.D., Obstetric Physician to the General Hospital, Professor of Midwifery at Mason College, Birmingham; 50, Newhall street, Birmingham. *Council*, 1881-3. *Vice-Pres.* 1884-6. *Hon. Loc. Sec.*

1868*†March, Henry Colley, M.D., Portisham, Dorchester. *Council*, 1890-2.

Elected

1887 MARK, LEONARD P., L.R.C.P. Lond., 61, Cambridge street, Hyde-park square, W.

1860† MARLEY, HENRY FREDERICK, The Nook, Padstow, Cornwall.

1862*†MARRIOTT, ROBERT BUCHANAN, Swaffham, Norfolk.

1887† MARSH, O. E. BULWER, L.R.C.P. Ed., Parkdale, Clytha park, Newport, Monmouthshire.

1890† MARTIN, CHRISTOPHER, M.B., C.M.Edin., F.R.C.S.Eng., Surgeon to the Birmingham and Midland Hospital for Women; 35, George road, Edgbaston, Birmingham. *Trans.* 1.

1883† MAURICE, OLIVER CALLEY, 75, London street, Reading. *Council,* 1888-90.

1890 MAY, CHICHESTER GOULD, M.A., M.D.Cantab., Assistant Physician to the Grosvenor Hospital for Women and Children; 26, Walton street, Pont street, S.W.

1884† MAYNARD, EDWARD CHARLES, L.R.C.P.Ed., Berkeley house, Richmond hill, Surrey.

1885† MELLER, CHARLES BOOTH, L.R.C.P. Ed., Cowbridge, Glamorganshire.

1886 MENNELL, ZEBULON, 1, Royal crescent, Notting hill, W.

1898 MENZIES, HENRY, M.B.Cantab., 4, Ashley gardens, S.W.

1882 MEREDITH, WILLIAM APPLETON, M.B., C.M., F.R.C.S.Eng., Surgeon to the Samaritan Free Hospital for Women and Children; 21, Manchester Square, W. *Council,* 1886-8. *Vice-Pres.* 1891-3. *Trans.* 3.

1893 MESQUITA, S. BUENO DE, M.D., B.S.Lond., 1, Highbury New park, N.

1893† MICHIE, HARRY, M.B. Aber., 27, Regent street, Nottingham.

1875*†MILES, ABIJAH J., M.D., Professor of Diseases of Women and Children in the Cincinnati College of Medicine, Cincinnati, Ohio, U.S.

1895† MILLER, JAMES THOMAS ROGER, Castlegate House, Malton, Yorkshire.

Elected

1876* MILLMAN, THOMAS, M.D., 59, Yonge street, Toronto, Ontario, Canada.

1880† MILLS, ROBERT JAMES, M.B., M.C., 35, Surrey street, Norwich.

1892† MILTON, HERBERT M. NELSON, Kasr-el-Aini Hospital, Cairo, Egypt.

1869*†MINNS, PEMBROKE R. J. B., M.D., Thetford, Norfolk.

1867* MITCHELL, ROBERT NATHAL, M.D., Brookwood, Hollington, St. Leonard's-on-Sea.

1894† MONDELET, WILLIAM HENRY, M.D., 1, Gladstone terrace, Brighton.

1893† MONTBRUN, D. ANTONIO DE, L.R.C.P. Lond., Port of Spain, Trinidad, W.I.

1877 MOON, FREDERICK, M.B., Bexley house, Greenwich, S.E.

1859† MOORHEAD, JOHN, M.D., Surgeon to the Weymouth Infirmary and Dispensary; Weymouth, Dorset.

1888 MORISON, ALEXANDER, M.D. Ed., 14, Upper Berkeley street, Portman square, W.

1895 MORISON, HENRY BANNERMANN, M.B. Durh., Parkwood House, Christchurch road, Boscombe, Bournemouth.

1890 MORRIS, CHARLES ARTHUR, M.A., M.B., B.C.Cantab., F.R.C.S., 29, Eccleston street, Eaton square, S.W.

1883 MORRIS, CLARKE KELLY, Gordon Lodge, Charlton road Blackheath, S.E.

1893 MORRISON, JAMES, L.R.C.P. Lond., Camden House, Wylde green, Birmingham.

1893† MORSE, THOMAS HERBERT, F.R.C.S., 10, Upper Surrey street, Norwich. *Trans.* 1.

1891 MORTLOCK, CHARLES, L.R.C.P. Lond., 27, Oxford square, Hyde park, W.

1886† MORTON, SHADFORTH, M.D. Durham, 24, Wellesley road, Croydon.

Elected

1896 MUGFORD, SIDNEY ARTHUR, L.R.C.P., 135, Kennington park road, S.E.

1893 MUIR, ROBERT DOUGLAS, M.D., 286, New Cross road, S.E.

1896† MURPHY, JAMES KEOGH, L.R.C.P., 35, Princes square, Bayswater, W.

1885 MURRAY, CHARLES STORMONT, L.R.C.S. and L.M. Ed., 85, Gloucester place, Portman square, W.

1893† MURRAY, ROBERT MILNE, M.B. Edin., 11, Chester street, Edinburgh.

1888 MYDDELTON-GAVEY, EDWARD HERBERT, 124, Harley street, W.

1893† NAIRNE, JOHN STUART, F.R.C.S. Ed., 141, Hill street, Garnethill, Glasgow.

1897† NANAVATTY, BYRAMGI HORMAYI, L.M. & S. Bomb., B. J. School of Medicine, Ahmedabad, Bombay Presidency.

1887 NAPIER, A. D. LEITH, M.D. Aber., M.R.C.P. Lond., F.R.S.Edin., North terrace, East Adelaide, South Australia. *Trans.* 2.

1896† NARIMAN, R. T., M.D. Brux., Parsi Lying-in Hospital, Bombay.

1892† NASH, W. GIFFORD, F.R.C.S., 36, St. Peter's, Bedford.

1859† NEAL, JAMES, M.D., Parterre, Sandown, Isle of Wight.

1882† NESHAM, THOMAS CARGILL, M.D., Lecturer on Midwifery in the University of Durham College of Medicine at Newcastle-on-Tyne; 12, Ellison place, Newcastle-on-Tyne. *Council*, 1889-91. *Vice-Pres.* 1895-7.

1859*†NEWMAN, WILLIAM, M.D., Surgeon to the Stamford and Rutland Infirmary; Barn Hill House, Stamford, Lincolnshire. *Council*, 1873-5. *Vice-Pres.* 1876-7. *Trans.* 5.

1889† NEWNHAM, WILLIAM HARRY CHRISTOPHER, M.A., M.B. Cantab., Physician-Accoucheur to the Bristol General Hospital; Chandos Villa, Queen's road, Clifton, Bristol.

1895† NEWSTEAD, JAMES, 9, York place, Clifton, Bristol.

Elected

1893† NICHOL, FRANK EDWARD, M.A., M.B., B.C. Cantab., 11, Ethelbert Terrace, Margate.

1873† NICHOLSON, ARTHUR, M.B. Lond., 30, Brunswick square, Brighton. *Council*, 1897-9.

1894 NICHOLSON, EDGAR, M.R.C.S., The Laurels, High street, Fenny Stratford, Bucks.

1879† NICHOLSON, EMILIUS ROWLEY, M.D., 19, Cornwallis gardens, Hastings.

1876* NIX, EDWARD JAMES, M.D., 11, Weymouth street, W. *Council*, 1889-90.

1882† NORMAN, JOHN EDWARD, Lismore House, Hebburn-on-Tyne.

1886 OGLE, ARTHUR WESLEY, L.R.C.P. Lond., 90, Cannon street, E.C.

1895† OGLE, JOHN GILBERT, M.D.Oxon., Reigate, Surrey.

O.F.† OLDHAM, HENRY, M.D., F.R.C.P., Consulting Obstetric Physician to Guy's Hospital; Cannington, Boscombe, Bournemouth. *Vice-Pres.* 1859. *Council*, 1860, 1865-6. *Treas.* 1861-2. *Pres.* 1863-4. *Trans.* 1. *Trustee.*

1888 OLIVER, FRANKLIN HEWITT, L.R.C.P. Lond., 2, Kingsland road, N.E.

1890† OSBURN, HAROLD BURGESS, L.R.C.P., Bagshot, Surrey.

1877† OSTERLOH, PAUL RUDOLPH, M.D. Leipzic, Physician for Diseases of Women, Diaconissen Hospital; 16, Sidonienstr., Dresden.

1892 OWEN, SAMUEL WALSHE, L.R.C.P.Lond., 10, Shepherd's Bush road, W.

1889* PAGE, HARRY MARMADUKE, M.D.Brux., F.R.C.S., 26, Ashley gardens, Victoria street, S.W.

1891† PAGE, HERBERT MARKANT, M.D.Brux., 16, Prospect hill, Redditch.

1883 PALMER, JOHN IRWIN, 132, Harley street, Cavendish square, W.

Elected

1877* PARAMORE, RICHARD, M.D., 2, Gordon square, W.C.

1867*†PARKS, JOHN, Bank House, Manchester road, Bury, Lancashire.

1887 PARSONS, JOHN INGLIS, M.D.Durh., M.R.C.P., Physician to Out Patients, Chelsea Hospital for Women, 3, Queen street, Mayfair, W. *Trans.* 2.

1880 PARSONS, SIDNEY, 78, Kensington Park road, W.

1865*†PATERSON, JAMES, M.D., Hayburn Bank, Partick, Glasgow.

1882* PEACEY, WILLIAM, M.D., Rydal Mount, St. John's road, Eastbourne.

1894 PEAKE, SOLOMON, M.R.C.S., 118, Percy road, Shepherd's Bush, W.

1864 PEARSON, DAVID RITCHIE, M.D., 23, Upper Phillimore place, Kensington, W. *Council*, 1895.

1871* PEDLER, GEORGE HENRY, 6, Trevor terrace, Rutland gate, S.W. *Council*, 1897-8.

1880*†PEDLEY, THOMAS FRANKLIN, M.D., Rangoon, India. *Trans.* 1.

1898 PENNY, ALFRED GERVASE, M.A., M.B., B.C.Cantab., Queen's Avenue, Muswell Hill, N.

1881† PERIGAL, ARTHUR, M.D., New Barnet, Herts. *Council*, 1892–3.

1893 PERKINS, GEORGE C. STEELE, M.D., 85, Wimpole street, W.

1871† PERRIGO, JAMES, M.D., 826, Sherbrooke street, Montreal, Canada. *Hon. Loc. Sec.*

1879*†PESIKAKA, HORMASJI DOSABHAI, 23, Hornby row, Bombay.

1883 PETTIFER, EDMUND HENRY, 32, Stoke Newington green, N.

1894 PETTY, DAVID, M.B., C.M.,Edin., 6, High road, South Tottenham, N.E.

1879 PHILLIPS, GEORGE RICHARD TURNER, 28, Palace court, Bayswater hill, W. *Council*, 1891.

1882 PHILLIPS, JOHN, M.A., M.D. Cantab., F.R.C.P., Obstetric Physician to King's College Hospital, and Lecturer on Practical Obstetrics in King's College; 68, Brook street, W. *Council*, 1887-9, 1893. *Hon. Lib.* 1894-5. *Hon. Sec.* 1896-9. *Board Exam. Midwives*, 1892-4. *Trans.* 9.

Elected

1897 PHILLIPS, LLEWELLYN C. P., M.B., B.C. Cantab., St. Bartholomew's Hospital, E.C.

1878* PHILPOT, JOSEPH HENRY, M.D., 61, Chester square, S.W. *Council*, 1891.

1889† PINHORN, RICHARD, L.R.C.P. Lond., 5, Cambridge terrace, Dover. *Council*, 1897-9.

1889† PLAYFAIR, DAVID THOMSON, M.D., C.M. Edin., Redwood House, Bromley, Kent.

1893 PLAYFAIR, HUGH JAMES MOON, M.D.Lond., Assistant Physician, Hospital for Women and Children, Waterloo road; 9, Cliveden place, Eaton square, S.W.

1864* PLAYFAIR, W. S., M.D., LL.D., F.R.C.P., Physician-Accoucheur to H.I. & R.H. the Duchess of Edinburgh; Consulting Obstetric Physician to King's College Hospital, 38, Grosvenor street, W. *Council*, 1867, 1883-5. *Hon. Librarian*, 1868-9. *Hon. Sec.* 1870-72. *Vice-Pres.* 1873-5. *Pres.* 1879-80. *Trans.* 15.

1880 POCOCK, FREDERICK ERNEST, M.D., The Limes, St. Mark's road, Notting hill, W.

1891 POLLOCK, WILLIAM RIVERS, M.B., B.C.Cantab., Assistant Obstetric Physician to the Westminster Hospital, 56, Park street, Grosvenor square, W. *Council*, 1895-7. *Board Exam. Midwives*, 1898-9.

1876* POPE, H. CAMPBELL, M.D., F.R.C.S., Broomsgrove Villa, 280, Goldhawk road, Shepherd's Bush, W.

1891† POPE, HENRY SHARLAND, M.B., B.C.Cantab., Castle Bailey, Bridgwater.

1888* POPHAM, ROBERT BROOKS, M.R.C.P. Edin., L.R.C.P.Lond., Endyon, 242, Camden road, N.W.

1864* POTTER, JOHN BAPTISTE, M.D., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery and Diseases of Women at, the Westminster Hospital; 20, George street, Hanover square, W. *Council*, 1872-6, 1890-2. *Hon. Lib.* 1877-8. *Vice-Pres.* 1879-81. *Treas.* 1882-4, 1893-7. *Board Exam. Midwives*, 1883-4. *Pres.* 1885-6. *Trans.* 1. *Trustee.*

Elected

1894† POUND, CLEMENT, L.R.C.P. Lond., High street, Odiham, Hants.

1893 POWELL, HERBERT EDWARD, Glenarm House, Upper Clapton, N.E.

1886 PRANGLEY, HENRY JOHN, L.R.C.P. Lond., Tudor House, 197, Anerley road, Anerley, S.E.

1893† PRATT, WILLIAM SUTTON, M.D., Penrhos House, Rugby.

1880* PRICKETT, MARMADUKE, M.A.Cantab., M.D., Physician to the Samaritan Hospital; 27, Oxford square, W. *Council*, 1892.

1895 PRIESTLEY, R. C., M.A., M.B.Cantab., 81, Linden gardens, Bayswater, W.

O.F.* PRIESTLEY, SIR WILLIAM O., M.D., LL.D., F.R.C.P., Consulting Obstetric Physician to King's College Hospital; 17, Hertford street, Mayfair, W. *Council*, 1859-61, 1865-6. *Vice-Pres.* 1867-9. *Pres.* 1875-6. *Trans.* 6.

1893 PROBYN-WILLIAMS, ROBERT JAMES, M.D.Durh., 22, Duke street, Portland place. *Trans.* 1.

1898† PURSLOW, CHARLES EDWIN, M.D.Lond., 192, Broad street, Birmingham.

1876*†QUIRKE, JOSEPH, L.R.C.P. Ed., The Oaklands, Hunter's road, Handsworth, Birmingham.

1878† RAWLINGS, JOHN ADAMS, M.R.C.P.Ed., Preswylfa, Swansea.

1897 RAWLINGS, J. D., M.B.Lond., The Old House, Dorking.

1870* RAY, EDWARD REYNOLDS, Dulwich, S.E.

1894† RAYNER, HERBERT EDWARD, F.R.C.S., Harcourt House, Camberley, Surrey.

1860* RAYNER, JOHN, M.D., Swaledale House, Highbury quadrant, N.

1879 READ, THOMAS LAURENCE, 11, Petersham terrace, Queen's gate, S.W. *Council*, 1892.

1879† REID, WILLIAM LOUDON, M.D., Professor of Midwifery and Diseases of Women and Children, Anderson's College; Physician to the Glasgow Maternity Hospital; 7, Royal crescent, Glasgow. *Council*, 1899.

Elected

1893† RENSHAW, ISRAEL JAMES EDWARD, F.R.C.S.Edin., Gorse Lea, Sale, near Manchester.

1875*†REY, EUGENIO, M.D., 39, Via Cavour, Turin.

1890 REYNOLDS, JOHN, M.D.Brux., 11, Brixton hill, S.W.

1872† RICHARDSON, WILLIAM L., M.D., A.M., Professor of Obstetrics in Harvard University; Physician to the Boston Lying-in Hospital; 225, Commonwealth avenue, Boston, Massachusetts, U.S.

1889† RICHMOND, THOMAS, L.R.C.P. Ed., 22, Holyrood crescent, Glasgow.

1872† RIGDEN, GEORGE, Surgeon to the Canterbury Dispensary; 60, Burgate street, Canterbury. *Trans.* 1. *Hon. Loc. Sec.*

1871* RIGDEN, WALTER, M.D. St. And., 16, Thurloe place, S.W. *Council*, 1882-3. *Trans.* 1.

1892 ROBERTS, CHARLES HUBERT, M.D.Lond., F.R.C.S. Eng., M.R.C.P., Physician to Out-patients to the Samaritan Free Hospital; 21, Welbeck street, Cavendish square, *Council*, 1897-9. *Trans.* 2.

O.F.*† ROBERTS, DAVID LLOYD, M.D., F.R.C.P., F.R.S. Edin., Consulting Obstetric Physician to the Manchester Royal Infirmary; and Lecturer on Clinical Midwifery and the Diseases of Women in Owens College; 11, St. John street, Deansgate, Manchester. *Council*, 1868-70, 1880-2. *Vice-Pres.* 1871-2. *Trans.* 5.

1867* ROBERTS, DAVID W., M.D., 56, Manchester street, Manchester square, W.

1890† ROBERTS, HUGH JONES, Sea View, Penygroes, R.S.O., N. Wales.

1883 ROBERTS, JOHN CORYTON, L.R.C.P. Ed., 71, Peckham rye, S.E.

1893 ROBERTS, THOMAS, 2, Selborne gardens, York road, Ilford, Essex.

Elected

1874 ROBERTSON, WILLIAM BORWICK, M.D., St. Anne's, Thurlow park road, West Dulwich, S.E.

1892 ROBINSON, GEORGE H. DRUMMOND, M.D., B.S. Lond., Assistant Obstetric Physician, West London Hospital; 84, Park street, Grosvenor square, W. *Council*, 1899. *Board Exam. Midwives*, 1898-9. *Trans.* 1.

1887 ROBINSON, HUGH SHAPTER, L.R.C.P. Ed., Talfourd House, Camberwell, S.E.

1895† ROBSON, ALFRED WILLIAM, M.D.Brux., Kempstow House, 111, Park road, Aston, Birmingham.

1890† ROBSON, A. W. MAYO, F.R.C.S., 7, Park square, Leeds.

1876†*ROE, JOHN WITHINGTON, M.D., Ellesmere, Salop.

1874*†ROOTS, WILLIAM HENRY, Canbury House, Kingston-on-Thames.

1874 ROPER, ARTHUR, M.D.St.And., Colby, Lewisham hill, S.E. *Council*, 1886-8.

1859 ROSE, HENRY COOPER, M.D., 16, Warwick road, Maida hill, W. *Council*, 1875-7. *Trans.* 4.

1893† ROSENAU, ALBERT, M.D., Hôtel Victoria, Kissingen, Bavaria. (*Winter*, Avenue la Costa, Monte Carlo.)

1884† ROSSITER, GEORGE FREDERICK, M.B., Surgeon to the Weston-super-Mare Hospital; Cairo Lodge, Weston-super-Mare.

1884† ROUGHTON, WALTER, F.R.C.S., Cranborne House, New Barnet.

1882* ROUTH, AMAND, M.D., B.S., Obstetric Physician (with care of Out-patients) to, and Lecturer on Practical Obstetrics at, Charing Cross Hospital; 14A, Manchester square, W. *Council*, 1886-8, 1896-7. *Board Exam. Midwives*, 1893-5. *Hon. Lib.* 1898-9. *Trans.* 4.

O.F.* ROUTH, CHARLES HENRY FELIX, M.D., Consulting Physician to the Samaritan Free Hospital for Women and Children; 52, Montagu square, W. *Council*, 1859-61. *Vice-Pres.* 1874-6. *Trans.* 13.

Elected

1887*†Rowe, Arthur Walton, M.D. Dur., 1, Cecil street, Margate.

1881† Roworth, Alfred Thomas, Grays, Essex.

1886 Rushworth, Frank, M.D. Lond., 1a, Goldhurst terrace, South Hampstead, N.W.

1888† Rushworth, Norman, L.R.C.P. Lond., Beechfield, Walton-on-Thames.

1886† Rutherfoord, Henry Trotter, M.A., M.D. Cantab., Salisbury House, Taunton. *Council*, 1892-3. *Trans.* 1.

1895† Rutherford, George James, L.R.C.P.Lond.; Hastings, St. Leonard's, and East Sussex Hospital, Hastings.

1866*†Saboia, Baron V. de, M.D., Director of the School of Medicine, Rio de Janeiro; 7, Rua dom Affonso, Petropolis, Rio Janeiro. *Trans.* 2.

1864*†Salter, John H., D'Arcy House, Tolleshunt d'Arcy, Kelvedon, Essex. *Council*, 1894-6.

1868* Sams, John Sutton, St. Peter's Lodge, Eltham road, Lee, S.E. *Council*, 1892.

1886† Sanderson, Robert, M.B. Oxon., 98, Montpellier road, Brighton.

1872 Sangster, Charles, 148, Lambeth road, S.E.

1872† Savage, Thomas, M.D., Surgeon to the Birmingham and Midland Hospital for Women; 133, Edmund street, Birmingham. *Council*, 1878-80.

1877 Savory, Charles Tozer, M.D., 25, Grange road, Canonbury, N. *Trans.* 1.

1894† Savory, Horace, M.A., M.B., B.C. Cantab., Haileybury College, Hertford.

1890 Schacht, Frank Frederick, B.A., M.D.Cantab., 168, Earl's Court road, S.W.

1888 Scott, Patrick Cumin, B.A., M.B. Cantab., 38, Shooter's Hill road, Blackheath, S.E.

1866 Sequeira, James Scott, 68, Leman street, Goodman's fields, E., and Crescent House, Cassland crescent, Cassland road, South Hackney, N.E.

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1882 SERJEANT, DAVID MAURICE, M.D., 1, The Terrace, Camberwell, S.E.

1875 SETON, DAVID ELPHINSTONE, M.D., 1, Emperor's gate, S.W. *Council*, 1884.

1896† SHARMAN, MARK, M.B., C.M.Glas., Rickmansworth.

1894† SHARPIN, ARCHDALE LLOYD, L.R.C.P. Lond., 23, Kimbolton road, Bedford.

1887 SHAW, JOHN, M.D. Lond., Obstetric Physician to the North West London Hospital; 32, New Cavendish street, Cavendish square, W. *Trans.* 3.

1891 SHAW-MACKENZIE, JOHN ALEXANDER, M.D. Lond., 31, Grosvenor street, W.

1888† SINCLAIR, WILLIAM JAPP, M.D. Aber., Honorary Physician to the Southern Hospital for Women and Children and Maternity Hospital, Manchester; and Professor of Obstetrics and Gynæcology, Owens College, Manchester; 250, Oxford road, Manchester. *Council*, 1899.

1881† SLOAN, ARCHIBALD, M.B., 21, Elmbank street, Glasgow.

1876† SLOAN, SAMUEL, M.D., C.M., 5, Somerset place, Sauchiehall street west, Glasgow.

1890† SLOMAN, FREDERICK, 18, Montpellier road, Brighton.

1861 SLYMAN, WILLIAM DANIEL, 26, Caversham road, Kentish Town, N.W. *Council*, 1881.

1867* SMITH, HEYWOOD, M.D., 18, Harley street, Cavendish square, W. *Council*, 1872-5. *Board Exam. Midwives*, 1874-6. *Trans.* 6.

1875 SMITH, RICHARD THOMAS, M.D., Physician to the Hospital for Women, Soho square; 117, Haverstock hill, N.W.

1886† SMITH, SAMUEL PARSONS, L.K.Q.C.P.I., Park Hyrst, Addiscombe road, Croydon.

1882† SMITH, STEPHEN MABERLY, L.R.C.P. Ed., Keerie Kara, Ryrie Street, Geelong, Melbourne.

1898† SNELL, SIDNEY HERBERT, M.D., B.S.Lond., Grays, Essex; and Gravesend, Kent.

1895 SODEN, WILFRED NEWELL, M.B.Lond., 186, Amhurst road, Hackney, N.E.

Elected

1895 SPARKS, CHARLES EDWARD, M.B., B.C., B.A.Cantab., Netherdale, Church End, Finchley, N.

1868* SPAULL, BARNARD E., 1, Stanwick road, West Kensington, W.

1888* SPENCER, HERBERT R., M.D., B.S.Lond., Professor of Midwifery in University College, London, and Obstetric Physician to University College Hospital; 104, Harley street, W. *Council*, 1890-92. *Board Exam. Midwives*, 1896-7. *Hon. Sec.* 1898-9. *Trans.* 7.

1876† SPENCER, LIONEL DIXON, M.D., Brigade-Surgeon, I.M.S., Bengal Establishment [care of Messrs. Grindlay and Co., 55, Parliament street, S.W.].

1882 SPOONER, FREDERICK HENRY, M.D., Maitland Lodge, Maitland place, Clapton, N.E.

1876† SPURGIN, HERBERT BRANWHITE, 82, Abington street, Northampton.

1897 STABB, ARTHUR FRANCIS, M.B., B.C. Cantab., Assistant Obstetric Physician to St. George's Hospital, and Lecturer in Midwifery in the University of Cambridge; 109, Harley street, W. *Council*, 1899.

1893 STACK, E. H. EDWARDS, M.B., B.C. Cantab., Royal Infirmary, Bristol.

1894 STEVENS, THOMAS GEORGE, M.D., B.S. Lond., 8, St. Thomas's street, S.E. *Trans.* 2.

1884† STEVENSON, EDMOND SINCLAIR, F.R.C.S. Ed., Strathallan House, Rondebosch, Cape of Good Hope. *Trans.* 2.

1877† STEPHENSON, WILLIAM, M.D., Professor of Midwifery, University of Aberdeen; 3, Rubislaw terrace, Aberdeen. *Council*, 1881-3. *Vice-Pres.*, 1887-9. *Trans.* 2.

1875*†STEWART, WILLIAM, F.R.C.P. Ed., 26, Lethbridge road, Southport.

1884† STIVEN, EDWARD W. F., M.D., The Manor Lodge, Harrow-on-the-Hill.

1884 STIVENS, BERTRAM H. LYNE, M.D.Brux., 107, Park street, Grosvenor square, W.

1883 STOCKS, FREDERICK, 421, Wandsworth road, S.W.

Elected

1894† STOTT, WILLIAM ATKINSON, M.R.C.S., L.R.C.P. Lond., 1, Grove terrace, Leeds.

1866* STRANGE, WILLIAM HEATH, M.D., 2, Belsize avenue, Belsize park, N.W. *Council*, 1882-4.

1895 STUCK, SIDNEY JOSEPH, M.D., Whitechapel Infirmary, E.

1898† STURMER, ARTHUR JAMES, Lieut.-Col., Indian Medical Service, Madras.

1884 SUNDERLAND, SEPTIMUS, M.D., 11, Cavendish place, Cavendish square, W.

1883* SUTHERLAND, HENRY, M.A., M.D. Oxon., M.R.C.P., 21, New Cavendish street, W.

1888 SUTTON, JOHN BLAND, F.R.C.S., Surgeon to the Middlesex Hospital; 48, Queen Anne street, Cavendish square, W. *Council*, 1894-5. *Trans.* 5.

1894 SWALLOW, ALLAN JAMES, M.B., B.S. Durh., 5, Mount Edgecumbe gardens, Clapham rise, S.W.

1896 SWAN, CHARLES ATKIN, M.B., B.Ch.Oxon., 4, Devonport street, Gloucester square, W.

1893 SWAYNE, FRANCIS GRIFFITHS, M.A., M.B., B.C.Cantab., 15, Church road, Norwood, S.E.

1859*†SWAYNE, JOSEPH GRIFFITHS, M.D., Consulting Physician-Accoucheur to the Bristol General Hospital; Emeritus Professor of Midwifery in University College, Bristol; Harewood House, 74, Pembroke road, Clifton, Bristol. *Council*, 1860-1. *Vice-Pres.* 1862-4. *Trans.* 9.

1892† SWAYNE, WALTER CARLESS, M.D.Lond., Obstetric Physician, Bristol Royal Infirmary; Lecturer on Practical Midwifery in University College, Bristol; 8, Leicester place, St. Paul's road, Clifton.

1888* SWORN, HENRY GEORGE, L.K.Q.C.P. & L.M., 5, Highbury crescent, N.

1883 TAIT, EDWARD SABINE, M.D., 48, Highbury park, N. *Council*, 1892-4. *Trans.* 1.

1879 TAIT, EDWARD W., 10, Ellerdale road, Hampstead, N.W. *Council*, 1886-7.

1871*†TAIT, LAWSON, F.R.C.S., Surgeon to the Birmingham and Midland Hospital for Women; 7, The Crescent, Birmingham. *Trans.* 15.

Elected

1880*†TAKAKI, KANAHEIRO, F.R.C.S., 10, Nishi-Konyachō, Kiō-bashika, Tokio, Japan. *Hon. Loc. Sec.*

1859 TAPSON, ALFRED JOSEPH, M.B. Lond., Heath Lodge, Hillingdon, Uxbridge. *Council*, 1862-4. *Vice-Pres.* 1891.

1891 TARGETT, JAMES HENRY, M.B., M.S. Lond., F.R.C.S., Assistant Obstetric Surgeon to Guy's Hospital, 6, St. Thomas's street, S.E. *Council*, 1895.

1892 TATE, WALTER WILLIAM HUNT, M.D.Lond., Assistant Obstetric Physician to St. Thomas's Hospital; 57, Queen Anne street, Cavendish square, W. *Council*, 1895-7. *Board Exam. Midwives*, 1898-9. *Trans.* 1.

1871 TAYLER, FRANCIS T., B.A. Lond., M.B., Claremont villa, 224, Lewisham High road, S.E.

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1890*†TAYLOR, JOHN WILLIAM, F.R.C.S., Surgeon to the Birmingham and Midland Hospital for Women; Consulting Surgeon to the Wolverhampton Hospital for Women; 22, Newhall street, Birmingham. *Trans.* 2.

1892 TAYLOR, WILLIAM BRAMLEY, 145, Denmark hill, S.E.

1885† TAYLOR, WILLIAM CHARLES EVERLEY, M.R.C.P. Edin., 34, Queen street, Scarborough.

1894† TENCH, MONTAGUE, M.D. Brux., L.R.C.P. Lond., Great Dunmow, Essex.

1890† THOMAS, BENJAMIN WILFRED, L.R.C.P. Lond., Welwyn.

1887† THOMAS, WILLIAM EDMUND, L.R.C.P.Ed., Pentwyn, Bridgend, Glamorganshire.

1867*†THOMPSON, JOSEPH, L.R.C.P. Lond., Surgeon to the General Hospital and Hospital for Women, Nottingham; 1, Oxford street, Nottingham. *Trans.* 1. *Hon. Loc. Sec. Council*, 1896-8.

1878 THOMSON, DAVID, M.D., 33, Lowndes street, Belgrave square, S.W.

1873* TICEHURST, CHARLES SAGE, Petersfield, Hants.

1866 TILLEY, SAMUEL.

Elected

1887† TINLEY, THOMAS, M.D. Durh., Hildegard House, Whitby.

1895† TINLEY, WILLIAM EDWIN FALKINGRIDGE, M.B., B.S. Durh., Hildegard House, Whitby.

1879† TIVY, WILLIAM JAMES, F.R.C.S. Ed., 8, Lansdown place, Clifton, Bristol.

1897 TODD-WHITE, ARTHUR THOMAS, L.R.C.P. Lond., Lancaster House, Leytonstone.

1872† TOTOTSCHINOFF, N., M.D., Charkoff, Russia.

1884 TRAVERS, WILLIAM, M.D., 2, Phillimore gardens, W.

1893† TRETHOWAN, WILLIAM, M.B., C.M. Aber., care of Dr. Mac-Williams, Perth, Western Australia.

1886† TUCKETT, WALTER REGINALD, Woodhouse Eaves, near Loughborough.

1898 TURNER, ARTHUR SCOTT, L.R.C.P. Lond., Stanton, Anerley, S.E.

1865* TURNER, JOHN SIDNEY, Stanton House, 81, Anerley road, Upper Norwood, S.E. *Council*, 1893-4.

1891 TURNER, PHILIP DYMOCK, M.D. Lond., 44, Welbeck street, W.

1881† TUTHILL, PHINEAS BARRETT, M.D., 27, Northbrook road Dublin.

1861 TWEED, JOHN JAMES, F.R.C.S., 14, Upper Brook street, W. *Council*, 1896.

1897 TWYNAM, GEORGE EDWARD, L.R.C.P. Lond., 31, Gledhow gardens, S.W.

1890 TYRRELL, WALTER, L.R.C.P. Lond., 104, Cromwell road, S.W.

1893 UMNEY, WILLIAM FRANCIS, M.D. Lond., Heatherbell, 15, Crystal Palace park road, Sydenham, S.E.

1874* VENN, ALBERT JOHN, M.D., 70A, Grosvenor street, W.

1873* VERLEY, REGINALD LOUIS, F.R.C.P. Ed., St. George's Club, Hanover square, W.

1892† VERRALL, THOMAS JENNER, L.R.C.P. Lond., 97, Montpellier road, Brighton.

Elected

1879† WADE, GEORGE HERBERT, Ivy Lodge, Chislehurst, Kent. *Council*, 1892-3.

1894† WAGSTAFF, FRANK ALEX., L.R.C.P. Lond., Saffron Walden, Essex.

1860† WALES, THOMAS GARNEYS, Downham Market, Norfolk.

1898† WALKER, ALFRED, M.D., B.C., M.A.Cantab., 12, Lingfield road, Wimbledon.

1894 WALKER, THOMAS ALFRED, L.R.C.P. Edin., Greville Lodge, Willesden park, N.W.

1866† WALKER, THOMAS JAMES, M.D., Surgeon to the General Infirmary, Peterborough; 33, Westgate, Peterborough. *Council*, 1878-80. *Hon. Loc. Sec.*

1889 WALLACE, ABRAHAM, M.D. Edin., 39, Harley street, W.

1870 WALLACE, FREDERICK, Foulden Lodge, Upper Clapton, N.E. *Council*, 1880-2.

1897† WALLACE, JAMES ROBERT, M.D.Brux., 50, Park street, Calcutta.

1883 WALLACE, RICHARD UNTHANK, M.B., Cravenhurst, Craven park, Stamford hill, N.

1893† WALLS, WILLLAM KAY, M.B. Lond., St. Mary's Hospital, Manchester.

1879*†WALTER, WILLIAM, M.A., M.D., Surgeon to St. Mary's Hospital, Manchester; 20, St. John street, Manchester.

1867*†WALTERS, JAMES HOPKINS, Surgeon to the Royal Berkshire Hospital; 15, Friar street, Reading, Berks. *Council*, 1884-6. *Trans.* 1. *Hon. Loc. Sec.*

1873† WALTERS, JOHN, M.B., Church street, Reigate, Surrey. *Council*, 1896-8. *Trans.* 1.

1898*†WARD, CHARLES, F.R.C.S.I., M.R.C.S.Eng., Pietermaritzburg, Natal, S. Africa.

1895 WARNER, FREDERICK ASHTON, L.R.C.P., 10, Brechin place, South Kensington, S.W.

Elected

1898† WATSON, C. R., M.D.Brux., 3, Mount Ephraim road, Tunbridge Wells.

1884† WAUGH, ALEXANDER, L.R.C.P. Lond., Midsomer-Norton, Bath.

1893† WEBB, JAMES RAMSAY, M.B., B.S.Melbourne, 82, St. Vincent place south, Albert park, Melbourne.

1894† WEBB, JOHN CURTIS, M.A., M.B., B.C.Cantab., Collingham place, Earl's Court.

1886† WEBBER, WILLIAM W., L.R.C.P. Ed., Crewkerne.

1893† WEBSTER, THOMAS JAMES, Brynglâs, Merthyr Tydvil.

1897† WEEKS, COURTENAY CHARLES, L.R.C.P.Lond., Pinchbeck, Spalding.

1887† WELLS, ALBERT PRIMROSE, M.A., L.R.C.P. & S., L.M., 16, Albemarle road, Beckenham.

1886† WEST, CHARLES J., L.R.C.P. Lond., The Grove, Fulbeck, Grantham.

1888* WESTON, JOSEPH THEOPHILUS, M.D.Brux., Civil Surgeon, Hissar, Punjab (care of Messrs. Thacker, Spink, and Co., booksellers and publishers, Government place, Calcutta).

1890 WHEATON, SAMUEL W., M.D.Lond., Physician to the Royal Hospital for Children and Women; 76, The Chase, Clapham common, S.W.

1889† WHITCOMBE, CHARLES HENRY, F.R.C.S. Edin., 281, Queen's road, Halifax.

1890 WHITE, CHARLES PERCIVAL, M.A., M.B., B.C.Cantab., 144, Sloane street, S.W.

1882 WHOLEY, THOMAS, M.B. Durh., Winchester House, 50, Old Broad street, E.C.

1879† WILLANS, WILLIAM BLUNDELL, F.R.C.P. Ed., Much Hadham, Herts.

1894† WILLIAMS, JOHN D., M.D. Ed., B.Sc., 20, Windsor place, Cardiff.

Elected

1872 WILLIAMS, Sir JOHN, Bart., M.D., F.R.C.P., Physician-Accoucheur to H.R.H. Princess Beatrice, Princess Henry of Battenberg; Consulting Obstetric Physician to University College Hospital; 63, Brook street, Grosvenor square, W. *Council*, 1875-6, 1892, 1894. *Hon. Sec.* 1877-9. *Vice-Pres.* 1880-2. *Board Exam. Midwives*, 1881-2; *Chairman*, 1884-6. *Pres.* 1887-8. *Trans.* 12. *Trustee.*

1897 WILLIAMS, JOSEPH WILLIAM, L.R.C.P., 128, Mansfield road, Gospel Oak, N.W.

1890 WILLIAMS, REGINALD MUZIO, M.D.Lond., 35, Kensington park gardens, W.

1881 WILLIS, JULIAN, M.R.C.P. Ed., 64, Sutherland avenue, Maida vale, W.

1898† WILSON, CLAUDE, M.D.Edin., Belmont, Church road, Tunbridge Wells.

1892† WILSON, THOMAS, M.D., B.S.Lond., F.R.C.S., Assistant Obstetric Physician at the General Hospital, Birmingham; 22, Temple row, Birmingham. *Trans.* 1.

1886† WINTERBOTTOM, ARTHUR THOMAS, L.R.C.P. Ed., Lark hill, Swinton, Manchester.

1896† WINTER, JOHN BRADBURY, L.R.C.P, 28, Montpelier road, Brighton.

1877 WINTLE, HENRY, M.B., Kingsdown, Church road, Forest hill, S.E.

1893 WISE, ROBERT, M.D.Edin., 5, Weston park, Crouch End, N.

1887† WITHERS, ROBERT, Stenteford Lodge, Spencer terrace, Lipson road, Plymouth.

1890 WORNUM, GEORGE PORTER, 6, College terrace, Belsize park, N.W.

1876† WORTS, EDWIN, 6, Trinity street, Colchester.

1887† WRIGHT, CHARLES JAMES, Senior Surgeon to the Hospital for Women and Children, Leeds; Professor of Midwifery to the Yorkshire College; Lynton Villa, Virginia road, Leeds.

Elected

1888*†WYATT-SMITH, FRANK, M.B., B.C.Cantab., British Hospital, Buenos Ayres.

1871 YARROW, GEORGE EUGENE, M.D., 26, Duncan terrace, Islington, N. *Council*, 1881-3.

1882*†YOUNG, CHARLES GROVE, M.D., 14, Clapham Mansions, Clapham Common, S.W.

Number of Fellows . . . . 676.

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ERRATA.

Page 119, line 6 from top, after "cells" insert "(Plate I, fig. 1)."

,, 119, line 7 from top, after "ovary" insert "(Plate I, fig. 2)."

,, 135, line 14 from bottom, after "Specimen" *read* "of carcinoma of omentum and Fallopian tube."

,, 136, *for* "cystic intra-ligamentous myoma" at head of page, *read* "carcinoma of omentum, &c."

,, 154, line 2 from bottom, after "exhibited" insert "(see Plate IV)."

,, 154, insert as a fresh paragraph, after last line, "The specimen was referred to a committee for examination and report. (See p. 213.)"

,, 182, line 13 from top, after "corpus luteum" insert "Plate V, fig. 1."

,, 184, line 6 from top, after "evening" insert "Plate V, fig. 2."

,, 187, line 4 from bottom, *for* "presented. There" *read* "presented, there."

,, 194, line 1 from top, after "beneath" insert "(Plate VI);"

,, 194, before Plate VI insert the Plate erroneously numbered Plate II, and now placed opposite p. 124.

,, 214, at end of first paragraph insert "(See Pl. IV, p. 154)."

,, 255, line 4 from bottom, transpose "The President said, &c.," to the end of the paragraph on p. 256, to p. 270, where it should be inserted as a separate paragraph, immediately above Dr. Lea's reply.

ADVERTISEMENT.

The Society is not as a body responsible for the facts and opinions which are advanced in the following papers and communications read, nor for those contained in the abstracts of the discussions which have occurred at the meetings during the Session.

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OBSTETRICAL SOCIETY

OF

LONDON.

SESSION 1898.

JANUARY 5TH, 1898.

C. J. CULLINGWORTH, M.D., President, in the Chair.

Present—29 Fellows.

The President nominated Mr. Targett, Dr. Wise, and Dr. Gubb as Auditors of the Accounts for 1897.

Books were presented by the University of Geneva, the Johns Hopkins Hospital Staff, the St. Thomas's Hospital Staff, and the Medical Society.

C. W. Grant-Wilson, L.R.C.P.Lond., and G. E. Twynam, L.R.C.P.Lond., were admitted Fellows of the Society.

James R. Wallace, M.D. (Calcutta), was declared admitted.

The following gentlemen were elected Fellows of the Society:—David J. Evans, M.D.McGill (Montreal); Alfred Walker, M.D., B.C.Cantab.; Thomas Cullen, M.D. Toronto (Baltimore); Trevethan Frampton, L.R.C.P.; George A. Auden, M.B., B.C.Cantab.; Henry Menzies, M.B.Cantab.; Henry Macnaughton Jones, M.B., B.Ch.; and S. Jervois Aarons, M.D.Edin.

MALIGNANT ADENOMA (CARCINOMA) OF THE CERVIX UTERI.

Shown by Frederick John McCann, M.D., C.M.

The specimen was removed by vaginal hysterectomy, June 23rd, 1897, from a patient aged 46 years. She was discharged well twenty-eight days after the operation.

The body of the uterus was much enlarged, the cavity being dilated and filled with mucoid material, which was slightly blood-tinged. The cervix was nodular, and excavated by the growth, which did not extend into the uterine cavity. Sections made from the cervical growth show that it is composed of tubules lined by a single layer of columnar epithelium, the interstitial tissue being of a fibro-cellular character, and varying in amount.

The malignant nature of the growth was proved by the rapid recurrence in the pelvic cellular tissue. When the patient was seen on October 2nd, 1897, hard nodular infiltration was felt posteriorly and laterally in the pelvis.

The patient died on December 19th, 1897, from starvation owing to constant vomiting. The liver was enlarged and nodular, extending below the level of the umbilicus. No post-mortem was obtained.

The President asked Dr. McCann whether he was quoting any particular authority when he spoke of glandular carcinoma as being a specially malignant form of the disease. In a recent conversation with a distinguished pathologist he (the President) was informed that glandular carcinoma was now regarded by pathologists as, generally speaking, the least malignant form of cancerous disease, the least rapid in its course, and the least likely to recur after timely removal. This view, he was told, was based on the results of rectal surgery.

UTERINE MYOMA.

Shown by Frederick John McCann, M.D., C.M.

A multinodular myoma weighing 6 lbs., removed by abdominal intra-peritoneal hysterectomy from a patient aged 44 years. The patient had suffered for eighteen months from attacks of retention of urine, necessitating the use of the catheter. She made an uneventful recovery.

PLACENTA FROM A CASE OF EXTRA-UTERINE FŒTATION; THE CHILD AT FULL TERM, AND REMOVED FIVE MONTHS AFTER DEATH.

Shown by John Phillips, M.A., M.D.Cantab., F.R.C.P.

Mrs. C—, a married woman with three children, the last born nine years ago, menstruated normally and regularly up to and during November, 1896 (fourteen months ago). On December 14th, when her period was seven or eight days overdue, she was attacked with much left-sided abdominal pain, accompanied by a discharge of blood; she was ill for fourteen days with abdominal tenderness and feeling of malaise. Morning sickness now commenced, and

during January the amenorrhœa continued, while in February constant abdominal pain was present. In March there was a three-day hæmorrhage, like menstruation, and she still continued in pain; she first noticed fœtal movements. In April she had retention of urine, requiring the catheter. In August she was the size of a woman at term, and on the 5th of that month a spurious labour occurred; since then she has got smaller. On December 29th she began to feel very ill, with shivering and headache. Her temperature was found to be 102°, and her pulse 120, with a tender abdominal swelling. Her condition became worse, and I saw her on December 31st, when she was found with a large tender swelling reaching three fingers above the navel; also with a hardish rounded swelling cropping up in the median line, two fingers above the symphysis pubis. This was felt to contract and relax at intervals; the sound passed 3½ or 4 inches directly into it.

The abdomen was opened, and a full-term dead child removed from an extra-uterine sac behind the uterus. The Fallopian tubes and broad ligaments were quite normal, and showed no evidences of recent rupture or inflammation. The placenta was attached to the fundus of the sac, was pulled off with some difficulty, and no serious hæmorrhage complicated its removal. It weighs 1¼ lbs., is flattened out, and putrid. Its maternal surface is not lobulated, otherwise it presents much the appearance of an intra-uterine placenta. The patient was convalescent at the end of three weeks.

Dr. Peter Horrocks related a case in his own practice. The patient carried the child for ten months after the cessation of her periods, and that it lived ten months *in utero* was borne out by the size and weight and general development of the child when it was removed. Her own doctor was sent for when she ought to have been in labour, but nothing happened. Three months later,—that is, thirteen months after the last period,—she was sent to Guy's Hospital. The child was removed by abdominal section, and the placenta removed without difficulty and with practically no hæmorrhage. The wall of the sac was sewn to the abdominal wound. Although upwards of two years ago,

there was still a sinus into which a probe passed 3 or 4 inches. An abscess formed in the pelvis, and was laid open *per vaginam*. It was possible then to wash right through from the abdominal sinus into the vagina. The opening into the vagina gradually closed, but the sinus still secretes pus. It has been dilated and curetted, without curing it so far. At first a lot of small pellets of hair were discharged, probably lanugo. He did not know quite how to prevent these sinuses in such cases.

The President said the chief interest of cases like that of Dr. John Phillips centred in the difficulty of knowing how to deal with the placenta. If it could be known with certainty that at a given time after the death of the full-grown fœtus the placenta could be removed without risk of hæmorrhage, the problem would be greatly simplified. But, unfortunately, the time varied. It might be within the recollection of some of the Fellows present that he had, a few years ago ('Trans.,' vol. xxxv), brought before the Society a case in which he had been able to remove the placenta with little or no hæmorrhage one month after the death of the child. On the other hand, a case had been recorded where, four months after the death of the child, separation of the placenta was accompanied with alarming hæmorrhage. In Dr. Phillips's case the child had been dead five months, and the hæmorrhage amounted to little more than an insignificant oozing from the veins. A point of exceptional interest in Dr. Phillips's case was the fact that both Fallopian tubes were traced out and found unaltered. It would be rash, in face of the accumulating evidence against the occurrence of abdominal pregnancy as a primary condition, to accept the integrity of the tubes in this case as proof that the pregnancy had not originally been tubal. If there had been rupture, no doubt evidence of it would have been forthcoming. But it was not necessary to suppose that if there had been tubal gestation there must have been rupture of the tube to permit the escape of the ovum into the abdominal cavity. The ovum might have escaped from the free end of the tube and have maintained its vitality after its extrusion. Supposing gestation to have occurred close to the outer extremity of the tube, it was quite conceivable that the tube had, in the months that followed the escape of the ovum, recovered its normal size and appearance. Referring to a remark made by Dr. Horrocks as to the difficulty of dealing with sinuses in the abdominal scar, he expressed the opinion that a sinus always meant that there was something that must come away—usually a ligature, sometimes a small slough or a little mass of hair, and that it was therefore useless to endeavour to bring about the closure of such a sinus either by dilatation or scraping until the source of suppuration had been expelled.

HYDROCELE OF THE CANAL OF NÜCK CONTAINING A PORTION OF THE LEFT FALLOPIAN TUBE.

Shown by Leonard Remfry, M.A., M.D.

Dr. Wheeler, of High Wycombe, had seen the patient three years ago, and then found a small swelling like a gland above Poupart's ligament. He next saw her in December, 1898, the original mass having increased to the size of an egg. It was tense, cystic, irreducible. Dr. Wheeler incised the sac, an amount of clear fluid escaping. The sac was thin for the most part, but its floor was rather solid, and presented some dark red fleshy projections and some gelatinous material. A pedicle was made and the cyst was removed. The stump appeared to have a lumen.

On examination Dr. Remfry found that the lumen was that of a Fallopian tube, and the solid projections spoken of must have been the fimbriated extremity. The tube was much thickened.

MALIGNANT GROWTH INVOLVING THE RIGHT UTERINE APPENDAGES.

Shown by Chas. J. Cullingworth, M.D.

This specimen was shown because it appeared not improbable that it might prove on dissection to be an example of primary carcinoma of the Fallopian tube, in which case it would be desirable that it should be placed on record.

It was afterwards found to be a round-celled sarcoma, too far advanced for any definite conclusion to be formed as to its seat of origin. It was therefore considered unnecessary to describe it further.

ADJOURNED DISCUSSION ON Dr. McKERRON'S PAPER ON "THE OBSTRUCTION OF LABOUR BY OVARIAN TUMOURS IN THE PELVIS."

Dr. Herman said that Dr. McKerron's paper was the fullest account of the complication of labour with ovarian tumours that had yet been given. He (Dr. Herman) agreed in the main with Dr. McKerron's advice; but there was one method of treatment, the credit of which he believed Dr. McKerron had given to Fritsch, which he thought deserved fuller consideration and commendation than Dr. McKerron had given to it, viz. the making an incision into the cyst through the vagina, and stitching the opening in the cyst to the margins of the vaginal incision. In this way the emptying of the cyst contents outside the peritoneum was secured. If the cyst were a dermoid, as many of the cysts which obstructed labour were, simple tapping was attended with much danger of the cyst contents escaping into the peritoneal cavity and setting up peritonitis. (Of the forty-three cases in Dr. McKerron's paper treated by tapping or incision, twenty-four died). This danger was avoided by Fritsch's procedure. He (Dr. Herman) did not advise this for tumours that could be pushed up, nor for those which came under the care of experienced operators in circumstances suitable for the performance of ovariotomy. But many of the cases occurred in the practice of accoucheurs having little or no experience in ovariotomy. The time at which the reposition of an ovarian tumour became impossible was in the second stage of labour, when the tumour was driven down by the advancing presenting part of the child. At this time prompt treatment was needed; there was not time to place the patient under the care of an experienced surgeon. In such circumstances he thought incision and suture was the best course which an accoucheur inexperienced in operating could follow. If such a case came under the care of an experienced operator, he inclined to agree with Professor Spencer in thinking the abdominal mode of operating better than the vaginal. If the tumour was driven down into the pelvis, there was usually tension of its pedicle; and tension of the pedicle called for extreme care in tying it, produced risk of the knots slipping, and the compression of the vessels being imperfect, with hæmorrhage as the result; and such after-hæmorrhage it would be almost impossible to stop by vaginal treatment.

Dr. Playfair said he regretted not having been present when Dr. McKerron's valuable paper had been read. Through the

courtesy of the secretaries, however, he had been able to look through it, and had been much struck with the complete way in which the author had dealt with this important topic. Twenty years had elapsed since he had communicated to the Society the paper he had himself written on the subject. In that he had collected thirty-five cases, which Dr. McKerron had incorporated with his own. He had tabulated the details of 126 more, making 183 in all, which conclusively showed that this serious complication of labour was by no means so rare as might be anticipated. If in the comparatively short period of twenty years 126 cases were recorded, then certainly it behoved practitioners to be thoroughly prepared to deal with such cases, which might at any time be met with in practice. It was a curious and important fact that the existence of ovarian tumour was only suspected in 18 per cent. of the cases before labour. Of course, if we did diagnose it during pregnancy it was a now admitted rule of practice that ovariotomy should be performed without delay, but unhappily the figures showed that this was only exceptionally possible. The explanation of this is probably that it was only very small and freely mobile tumours that could engage in the pelvis, and become impacted in front of the presenting part. If they were of any considerable size they would probably rise up with the uterus, and lie in the abdominal cavity. This he had pointed out in his paper. He did not doubt that where it was feasible the best and safest practice was to remove the tumour, either by abdominal or vaginal ovariotomy. This seemed now to be clearly the most scientific practice. The reason why he had not recommended this in his former paper was obviously because ovariotomy twenty years ago was on an entirely different footing from the operations in the present day. Then antiseptic operation was unknown or in its infancy, and laparotomy was a much more serious business than it is now. To do it during the actual progress of labour was a procedure that had never been considered a possibility. He might illustrate this by relating a case he had about that time of an ovarian tumour detected in a lady in the seventh month of pregnancy. The case was one which gave rise to much anxiety, and he had urged Sir Spencer Wells, who saw the case with him, to undertake its removal by ovariotomy. This he positively declined to do, so formidable was the procedure then considered, and premature labour was induced, unhappily with a fatal issue. Our knowledge and experience having so much increased, he had no doubt at all that, when feasible, the removal of the tumour should be undertaken. He should himself prefer abdominal ovariotomy. There was, however, a good deal to be said in favour of the vaginal method. It was to be noted that the tumours were necessarily small, and therefore probably non-adherent. Moreover, in such cases there would be a long thin pedicle, for if the pedicle were short the

tumour would not have prolapsed into the pelvic cavity, but would have been carried upwards into the abdomen with the enlarging uterus. Therefore the operation would probably be easy, and of late years our knowledge of the vaginal method of operating had much increased, in consequence of experience in such operations as total extirpation, anterior colpotomy, and the like. Our decision would doubtless be guided by the relations and character of the tumour observed at the time. But while admitting that ovariotomy was the best course, he felt there must always be cases when it could not be judiciously practised. It was obvious that this plan required experience in operating, suitable surroundings, nursing, instruments, &c., which could not always be got. He did not envy the practitioner who had no experience in abdominal surgery suddenly called on to perform such an operation. It behoved us, therefore, when ovariotomy was not feasible, to decide what was the next best course to pursue. Obviously the one thing that should not be done was to leave the case alone, in the hope that the fœtus might be pushed or drawn past the obstructing tumour. Dr. McKerron's tables showed that in all such cases the mortality had been dreadful, viz. 50 per cent. The explanation of this was probably that the contusion and bruising of the cyst walls reduced the case to a condition very like that of a strangulated hernia, resulting in a fatal form of peritonitis. In his paper he had recommended that such tumours should be punctured, so that their size should be lessened as much as possible. When this had been done the results had been much more satisfactory, the mortality having been only 18 per cent. Dr. McKerron did not seem to approve of this plan except in cystic tumours. He (Dr. Playfair), however, did not know how a cystic tumour was to be diagnosed, except by puncture. Certainly it could not be done by digital examination. He was therefore inclined to think that that was the proper course to pursue in all cases tightly jammed down in front of the presenting part. Of course, if the tumour was high up and mobile, reposition might be preferable, but there must always be a risk in returning into the abdominal cavity a cystic growth which had been long subjected to incarceration and contusion. Dr. Herman had suggested that the tumour should be incised, its contents evacuated, and the cyst walls stitched to the vagina. The proposal was new to him, and he therefore criticised it with hesitation, but it did not commend itself to him, because if a large vaginal incision was made it would surely be preferable to attempt vaginal ovariotomy, while a large open cyst stitched to the vagina would be very dangerous from a septic point of view. Practically no risk of that kind attended a simple puncture or aspiration practised with proper antiseptic precautions. Dr. McKerron gave a valuable series of rules for the after management of these cases,

which would always be a matter of anxious consideration. These seemed to him very judicious, and they greatly added to the value of his important paper.

Dr. Heywood Smith regretted that he was not present when Dr. McKerron's paper was read, as otherwise he might have added the following case to his valuable list. In 1884 he saw a lady, aged 24, who had a small ovarian tumour behind and on the right of the uterus. In April she married and became pregnant. During the pregnancy he several times pushed the tumour above the uterus, but it would not remain. Labour began December 26th, when the tumour came down in front of the head, obstructing delivery. He aspirated the cyst, and the child was born alive. She next became pregnant after a period, October 23rd to 26th, 1885. He performed ovariotomy December 5th, and she was confined of a living child July 20th, 1886.

Dr. Peter Horrocks thought the paper valuable, but the statistics of cases quoted were historically interesting rather than having any bearing upon modern treatment, because the fact that in these days of aseptic operations one could open the abdomen without ill effects rendered the question of what to do in cases of tumours obstructing labour capable of being answered quite differently. Twenty years ago and less it would have been wrong to do abdominal section in such cases, simply because the operation itself would have been fatal in the majority of cases from sepsis, and such sepsis we now know was due to the want of knowledge of how to attain asepsis in operating. Whereas now he did not think any one could fail to acknowledge that the proper and scientific treatment of such cases was to do abdominal section, pull the uterus out of the abdomen if need be, remove the tumour, put back the uterus, and sew up, allowing labour to proceed. Like Dr. Playfair, he failed to see why Dr. Boxall did Cæsarean section in his case.* The method adopted by Dr. Herbert Spencer was more scientific and better in every way for the patient.† With regard to the question of vaginal *versus* abdominal operation he certainly thought the latter was preferable, because even in the non-pregnant case vaginal ovariotomy was often most difficult and perplexing, and when pregnancy complicated it all the vessels became enlarged, and hence the hæmorrhage might easily become alarming, when it would be difficult and perhaps impossible to catch the bleeding points from the vagina. With regard to the question of diagnosis he pointed out that when a cyst is very tense it feels quite hard and solid, like a fibroid tumour. He related an instance where a woman was in labour at Guy's with a tumour in the pelvis which was examined by several, and all of them thought it was a solid tumour, probably a fibroid, basing their opinion on the

* See p. 25 *et seq.* † See p. 14 *et seq*

hardness of it. Certainly no fluctuation could be felt. A small needle was pushed into it and a few drops of pus withdrawn; then a trocar and cannula were used, and several ounces of pus were withdrawn. A septum was felt and punctured, and then another, and so at least three loculi were emptied, and sufficient room was obtained to permit of delivery. Subsequently another loculus of this multilocular suppurating cyst opened near the umbilicus, but the subsequent history he could not give, as the patient was afterwards under the care of Dr. Galabin. In these days such a case would be treated by abdominal section at once. He quite agreed that where an accoucheur was unskilled in abdominal surgery, or where help could not be obtained or asepsis guaranteed, then it might be a question what to do to tide over the immediate difficulty. Such cases, however, ought to be very rare, considering how easy it was to attain asepsis by means of boiling water, &c. Still no doubt they would occur, and when they did he thought that, after first using a small needle and syringe to find out if there were fluid contents, a free incision through the vaginal wall with subsequent emptying of the cyst, washing it out, and sewing it to the vaginal wall, as Dr. Herman and Fritsch had recommended, seemed better than merely aspirating. For not only was one better able to deal with the contents, which were not always very fluid, but one could also easily feel septa and open up separate loculi. To merely aspirate them or use a trocar and cannula permitted the contents to escape, and so fatal peritonitis might be set up or at least adhesions would form. In answer to the President and Dr. Spencer, he pointed out that, as a rule, these tumours were driven well down into the pelvis until they got near the vaginal orifice, so that it was not necessary to open them through the roof of the vagina; they could be opened low down within easy reach, and so it was not difficult to sew them to the vaginal wall.

Dr. Spencer expressed his appreciation of the high value of the paper, which had entailed a large amount of careful and laborious research. He was glad to find a general agreement that the best treatment for incarcerated ovarian tumours which could not be pushed up was ovariotomy. Cæsarean section inflicted an injury on the patient, which in ordinary cases was quite unnecessary, though it had been recommended in this Society as recently as 1892. He thought the opinion of the Society should go forth that ovariotomy was the proper treatment when practicable. If an incision were made into the tumour—tapping would usually be of no use—he was not in favour of stitching the cyst to the opening in the vagina; this would be a difficult operation, and had been found to be impracticable during labour owing to the child's head coming down. He thought under these circumstances the tumour should be

removed as soon as possible after the labour, either by the vagina or by the abdomen. As a temporary measure he would prefer plugging the cyst with iodoform gauze to stitching it to the vagina. He begged to thank the various speakers for the remarks they had made upon his own two cases.

The PRESIDENT said that it was greatly to be regretted that the author of the paper had not been able to be present at the adjourned discussion. The Fellows would then have had the great advantage of hearing his reply. He agreed with Dr. Horrocks that in drawing conclusions from past experience it was necessary to have continually in mind the very different conditions under which operations were performed before and since the introduction of antiseptics. As a large proportion of the ovarian tumours that had been met with as obstructions to delivery had proved to be dermoids, it seemed doubtful whether tapping would always succeed in effecting such a diminution in size as would suffice to overcome the obstruction. Undoubtedly the ideal treatment was the removal of the tumour there and then by abdominal section. Where this was impracticable, the proper course, if the tumour could not be pushed out of the way, was to endeavour to deal with it temporarily by tapping or incision *per vaginam*, and to perform ovariotomy as soon as possible after the labour was over. He did not think the alternative of Cæsarean section should be adopted unless under very exceptional circumstances. He concluded by calling attention to a case he (the President) had published in the 'St. Thomas's Hospital Reports' for 1887 (p. 143), in which abdominal section had been performed on a patient, nineteen weeks after delivery, for the removal of a dermoid tumour of the ovary that had caused serious obstruction to delivery, and that had subsequently undergone suppuration and discharged *per vaginam* through a rent in the posterior wall of the cervical canal.

INCARCERATED OVARIAN DERMOID OBSTRUCTING LABOUR: OVARIOTOMY DURING LABOUR.

By Herbert R. Spencer, M.D., B.S.Lond.,

PROFESSOR OF OBSTETRIC MEDICINE IN UNIVERSITY COLLEGE, LONDON; OBSTETRIC PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL.

(Received November 15th, 1897.)

(*Abstract.*)

In the case recorded the patient, aged 20, had had one dead child previously without difficulty. With the second child the labour was obstructed by an ovarian dermoid weighing sixteen ounces, incarcerated in the pelvis. As the tumour could not be pushed up, laparotomy was performed, the uterus withdrawn from the abdomen, the tumour removed, and the child delivered by forceps applied in the dorsal posture. Mother and child recovered. In the treatment of ovarian tumour obstructing labour the author thinks that the tumour should be pushed out of the pelvis if possible; but discards version, forceps, craniotomy, and simple incision or tapping of the tumour, on account of their danger. Cæsarean section will very rarely be necessary if the uterus be withdrawn from the abdomen. The author discusses the merits of vaginal and abdominal ovariotomy, and considers that, on the whole, the latter is the preferable operation.

E. G—, aged 20, had had one stillborn child, which was born without difficulty as a vertex presentation on June 1st, 1896. She recovered well, but noticed a swelling of the abdomen after she got up, and attended as an out-patient at a hospital, where the obstetric physician passed a catheter to see if the swelling was formed by the bladder; he told the patient to return in a fortnight, but as she felt quite well she did not do so.

On July 10th, 1897, at 3 a.m., she came on in labour at term with the second child, and was attended from University College Hospital. During the pregnancy she had had no unusual symptoms except an occasional sharp pain in the right side of the abdomen for the first three months. At 11 a.m. the cervix was partly dilated, and at 8.30 p.m. the obstetric assistant ruptured the membranes, the os being fully dilated, and applied forceps with difficulty owing to the presence of a tumour in the pelvis, which he took to be a cyst of the vaginal wall. As traction produced no effect I was summoned. I happened to be temporarily engaged, and as the case appeared urgent, Dr. Walter Tate kindly saw the patient for me; he found that the tumour was an ovarian cyst, and had chloroform administered with a view of endeavouring to push up the tumour. I saw the patient a few minutes later, at 10.30 p.m., and when the patient was anæsthetised it was found that the tumour could not be pushed up out of the pelvis. The general condition of the patient was good. The labour pains were violent, the abdomen was unusually prominent, and the recti were separated. There was a swelling above the pubes, formed by the bladder lying in front of the child's head. Above this was a depression formed by the ring of Bandl, and the lower segment appeared to be thin at this spot, but closely fitted to the child's body. The limbs of the child were felt in front, and the child was lying with its back posterior. On either side of the lower segment was heard a short sharp uterine souffle. The fœtal heart-sounds could not be heard, though they had been audible a few minutes previously. On vaginal examination the finger came upon a softish, evidently fluctuating tumour of the size of a large fist, lying in Douglas's pouch and bulging the posterior wall of the vagina forwards. In front of the tumour and very high up was felt the head, and the anterior lip of the cervix could just be touched; the posterior lip could not be felt. It was decided that the best thing to do was to perform ovariotomy. The husband

having after some hesitation given his consent, the patient was removed to University College Hospital in a four-wheeled cab at 11.30 p.m., and the operation was at once performed. The instruments having been boiled while waiting for the arrival of the patient, the abdomen, which was very dirty, was washed with soap and water, turpentine and carbolic lotion (1 in 20), and the vagina was douched with carbolic lotion (1 in 40), and chloroform was administered for the third time. An incision about six inches long was made over the prominent part of the uterus in the middle line. The abdominal wall here consisted of practically nothing but skin and peritoneum, and notwithstanding great care the peritoneum of the uterus was scratched by the knife on opening the abdomen, but the scratch did not bleed. The uterus was then brought through the incision by tilting it on its side, and was pulled forwards over the pubes. Then the top of the tumour, rising to the level of the pelvic brim, was seen in the space, about an inch and a half wide, between the sacral promontory and the back of the lower segment. As there was no room for the hand to pass into this space to grasp the tumour it was seized with forceps, but on making slight traction upon it it burst, and sebaceous material escaped. The tumour was then drawn up out of the abdomen, and removed after tying the pedicle tightly with floss silk in the usual way. After cleansing the peritoneum the uterus was turned back to lie on the abdominal wall, so that its axis was approximately in that of the pelvic brim (it could not be pressed through the wound again into the abdomen), and the wound was drawn together around the uterus and covered with sponges. The forceps was then applied while the patient lay in the dorsal position, the head having been pressed down into the pelvis by a hand of an assistant on the fundus, and the child was easily delivered alive with the face to the pubes. The perinæum was ruptured, the tear slightly involving the sphincter. After the child was born the uterus was kneaded, but as a little hæmorrhage occurred

the placenta was expressed; there was some loss of blood afterwards, about a pint in all. The uterus was returned to the abdomen, and contracted well after the injection of ergotin. The abdominal wound was sewed up with silk-worm gut, and fine silk for the skin. The perinæum was stitched with three silkworm-gut sutures. Carbolic gauze was applied to the abdomen, and iodoform gauze to the vulva. The operation took sixteen minutes till the tumour was removed, twenty-eight minutes till the wound was stitched, and forty minutes till the perinæum was repaired and the patient put to bed.

After the operation the patient was much collapsed, and a hypodermic injection of ether was given, and later half an ounce of brandy by the mouth; this, however, was soon vomited. The patient was very restless on coming out of the influence of the anæsthetic, tossing about till 7 a.m. The extremities, at first cold, soon became warmer, and at 3 a.m. the pulse was better than after the operation, 112 to the minute, weak and of low tension, though it had recovered from the marked irregularity it showed after the operation. The pulse and respirations remained frequent, though gradually slowing for the first five days after the operation, and the patient had a slight attack of sapræmia, due apparently to the retention of a small fragment of membrane and clot which was passed on July 17th. The highest point reached by the temperature was 103·2° on July 13th. From this it gradually declined to normal, and remained practically normal during the rest of her stay in the hospital. Flatus was passed spontaneously on the day of the operation, and the bowels were opened by liquorice powder on July 14th.

After the rather alarming collapse following the operation the general appearance of the patient was good.

On July 18th the patient appeared quite well. The deep abdominal stitches were removed; the wound had healed by first intention; there was no distension nor tenderness of the abdomen; the uterus rose three and a half inches above the pubes. The perinæal stitches were

removed on July 22nd. The sphincter had united, but the perinæum was only three-quarters of an inch long.

On July 24th the superficial sutures were removed; on August 7th the patient got up, feeling strong, and on August 14th she left the hospital with her child, which she had suckled, both being quite well.

The child was a well-developed female, weighing at birth $8\frac{1}{2}$ lbs., and measuring 21 inches in length. The other dimensions were—

Head-girth	15	inches.
Vertico-mental diameter	$5\frac{1}{2}$	,,
Occipito-frontal ,,	$4\frac{7}{8}$	,,
Cervico-bregmatic ,,	$4\frac{3}{4}$	,,
Suboccipito-bregmatic diameter	$3\frac{2}{3}$	,,
Fronto-mental diameter	$3\frac{2}{3}$	,,
Bi-parietal ,,	4	,,
Bi-temporal ,,	3	,,
Bi-mastoid ,,	$2\frac{7}{8}$	,,

The chief external measurements of the mother's pelvis were—

Sp. il.	$9\frac{1}{2}$	inches.
Cr. il.	$10\frac{1}{8}$	,,
Conj. ext.	$7\frac{3}{8}$	,,

The child had a high temperature, varying between 100° and 105·2°, for the first nine days after birth. It also had a blood-stained discharge from the vagina (probably uterine in origin) from the 14th to the 17th of July. It nevertheless remained well in appearance, and weighed 9 lbs. 5 oz. when it left the hospital.

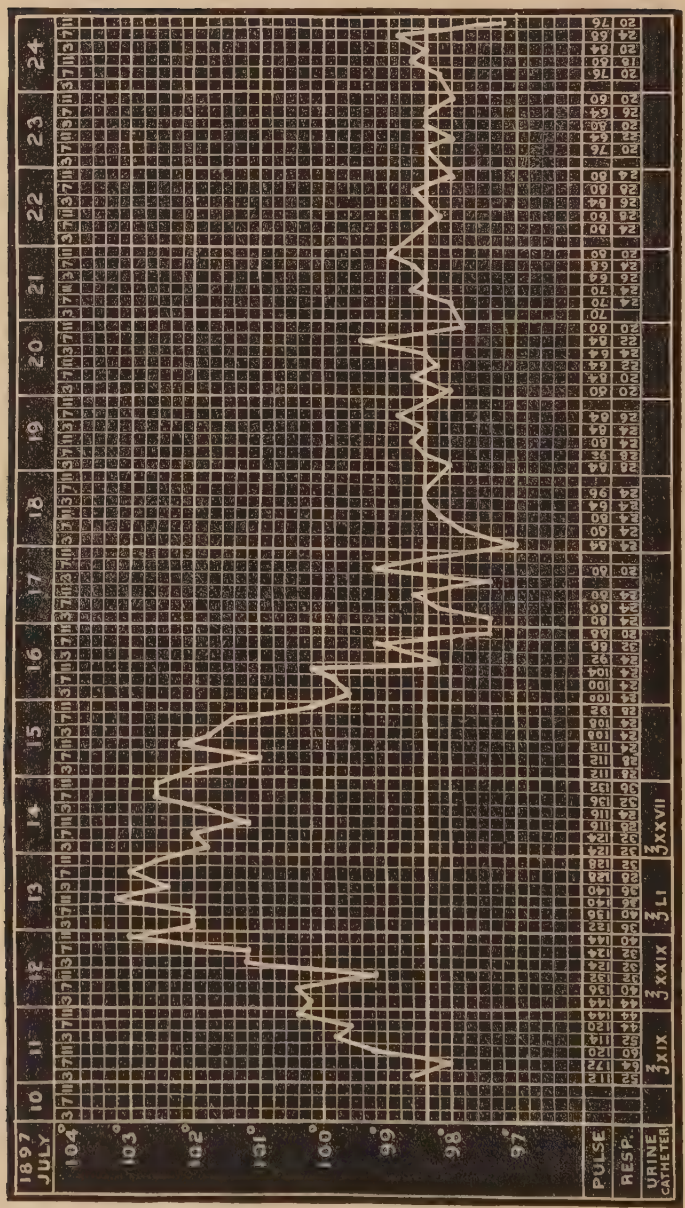
The tumour was an ovarian dermoid of the right side, containing sixteen ounces of sebaceous material and hair. It measured $4\frac{1}{2} \times 4\frac{1}{4} \times 3$ inches. Its position in the pelvis and its size are accurately shown in the diagram. It should be stated, however, that the pelvis in the case recorded was probably slightly smaller and the child larger than those from which the drawing has been made.

The position of the child with its back posterior is of some obstetric interest. A reference to the diagram*

seems to show that in dorso-posterior positions the head can sink lower into the pelvic cavity than in dorso-anterior positions, when the occiput meets the resistance of the pubic bones, which would probably turn it backwards. In the classical illustration of Ramsbotham's (2nd edit., p. 186) the child is represented as lying in the third vertex position.

The question of the treatment of these cases of incarce-

* The diagram is reduced by photography from one obtained by combining a Braune section of the pelvis with a tracing on glass of the tumour and a fœtus in their relative positions.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rated ovarian tumour during labour is an important one. In my judgment the difficulty should not be overcome by operating upon the child, whether by forceps, version, or craniotomy. If the tumour can be pushed up out of the pelvis by the vagina or rectum in the lateral or genu-pectoral position, that is the practice which I should adopt, and have successfully adopted. If the tumour cannot be pushed up, simply tapping or incising it is too dangerous an operation to be recommended. Cæsarean section will only be required if the ovarian tumour be malignant or, possibly, hydatid. For adhesions it will rarely, if ever, be necessary if the uterus be brought out of the abdomen.

The operation which offers the best chance to mother and child is ovariotomy, either vaginal or abdominal. In lessening shock and avoiding an abdominal wound, with the possible supervention of hernia, the vaginal operation has advantages; and if, as is unfortunately not the case, the diagnosis of the nature of the tumour and its freedom from adhesions could be made with absolute certainty, it would be the preferable operation for simple cases; but the operation would be liable to be followed by extensive laceration of the vagina if the birth of the child took place before the operation was completed, and in an adherent case it might be impossible: the liability to infection would also be increased. I think, therefore, notwithstanding the disadvantages alluded to, that the best treatment is abdominal ovariotomy when the os is well dilated. As far as I know, the operation of abdominal ovariotomy during labour has been hitherto successful, though it has only been performed three times*—all at University College Hospital. Two of the patients were operated upon by Sir John Williams, and the third is the subject of this paper.

* Dr. McKerron has since kindly informed me of a fourth case, also successful, published by Spaeth in the 'Medicinisches Correspondenz-Blatt' for July 3rd, 1897. (A copy of this publication is now in the Society's Library.)

This patient E. G. was seen by me at Lewis: Gt. Hosp July 30 1918
She had had 9 children since the operation & was in good health
The child now aged 21 is also well. (Sept)
In 1924 she had had 12 children, nine living. I have a photograph of them.

des württembergischen ärztlichen Landesvereins Bd LXVII No 26

INCARCERATED OVARIAN DERMOID OBSTRUCTING LABOUR; MANUAL ELEVATION; REMOVAL SEVEN MONTHS LATER.

By Herbert R. Spencer, M.D.

(*Abstract.*)

A dermoid ovarian tumour which was incarcerated in the pelvis and obstructed labour. The tumour was pushed up out of the pelvis under chloroform, the child delivered by forceps, and ovariotomy performed seven months later.

The tumour shown is a dermoid of the left ovary of the size of a double fist, containing fat and hair. In its walls can be felt three thin plates of bone. It has one main cyst with two small secondary cysts in its wall, and hanging in its interior by a pedicle of the thickness of whipcord is a mass of tissue of the size of an almond shell, containing fat, skin, and apparently a tooth; from this mass depends a long lock of dark brown hair. The possibility suggested itself of diagnosing a bone-containing ovarian dermoid during life by the Röntgen rays; but it will be seen in the skiagram of the tumour that the bony plates are too thin or too ill-ossified to give distinct dark shadows. The "tooth," however, is sharply defined, being thicker than the bony plates. The history of the patient from whom the tumour was removed is as follows:

Mrs. D—, aged 32, had had a child in May, 1894, the labour lasting five days and the child being stillborn. A tumour was discovered at this labour. A second child was born without difficulty by the breech in December, 1895, but was also stillborn.

On May 17th, 1897, at 9 p.m., I saw the patient in consultation at Ealing. She had been in labour all day,

and it had been found to be impossible to deliver her (although an attempt had been made with forceps) on account of a tumour of the size of a double fist which occupied Douglas's pouch, and prevented the head from entering the pelvis. The tumour was of hard consistence, but appeared to contain fluid, and I thought it was an ovarian dermoid. The child's back was towards the front, the cervix fully dilated, the head presenting. Under chloroform I pushed up the tumour out of the pelvis without much difficulty, and then found that the cord was prolapsed and its pulsations very slow, about thirty or forty to the minute. Quickly applying forceps I easily delivered a large female child, which soon breathed and survives. The tumour at once came down again into Douglas's pouch, and after the placenta was expressed it was found that the uterus was irregular in shape, and the tumour appeared to be adherent to it. I thought, therefore, I had made a mistake in the diagnosis, and that the tumour was a fibroid. I advised the patient to come and see me after the puerperium in order to settle the diagnosis. The patient recovered well from the confinement, and, as she felt quite well, she did not come and see me till December 4th, 1897, when I found her in good health and free from pain. A tumour could be felt rising up out of the pelvic brim to a height of three inches above the pubes. The uterus was pressed forwards, upwards, and to the right of the tumour, the lower end of which lay in Douglas's pouch, and could be felt to contain two plates of bone. It was clear that the tumour was a dermoid of the left ovary; it could not be pushed upwards to any considerable extent, owing apparently to adhesions. The right ovary felt normal.

On December 9th, 1897, I removed the tumour, which occupied the left ovary, and was bound by strong adhesions to the rectum, and by slighter adhesions to the back of the pelvis. The pedicle was twisted one whole turn by the tumour rotating from left to right. The operation occupied forty minutes. Recovery was uneventful for

the first eighteen days, the temperature not rising above 100°, and the pulse not above 80. The stitches were removed on the eighth day, union having taken place by first intention.

On December 26th the patient had a little exudation in the left inguinal region, accompanied by pain, and the temperature rose and remained up for the next few days, on one occasion reaching 103°. It has now fallen to normal, and the patient appears quite well.

INCARCERATED OVARIAN DERMOID; CÆSAREAN SECTION, AND REMOVAL OF TUMOUR AT THE END OF THE FIRST STAGE OF LABOUR.

By Robert Boxall, M.D., M.R.C.P.

The tumour shown comprises a portion of the right Fallopian tube, and a semi-solid ovarian tumour 4½ inches in diameter. The portion of tube in the fresh state presented some thickening, and around the fimbriæ four small cysts containing clear fluid. The outer wall of the cyst is smooth. On section the main part of the cyst is found to be occupied by light brown hair held together by very little fatty material. Towards the part to which the Fallopian tube is adherent is seen a projecting mass, the size of an unpeeled walnut, attached in two places. This consists chiefly of fat, in which is embedded bone, cartilage, and vessels. The surface is covered with skin bearing hairs.

On March 23rd, 1896, I saw the patient from whom this tumour was removed, with Dr. Mason of Osnaburgh Street, on account of a mass in the pelvis obstructing labour. The following history was obtained. B. D—, aged 29, the wife of a postman, primipara, pregnant eight months. Between twelve and thirteen years of age she had a slight show, but for one day only. The catamenia were regularly established between fourteen and fifteen, the flow being often accompanied by pain, chiefly on the left side, and sometimes by faintings. She had suffered from anæmia from eighteen to twenty-two years of age, but with the exception of three attacks of influenza in the last seven years her health had otherwise been good. She was married July 6th, 1895. The last period had occurred July 11th—16th, and the flow was more free than usual. During pregnancy she had some pain in the left ovarian region. When seen at 5.30 p.m. on March 23rd

the cervix was dilated to the size of a florin; the pains were moderate. The membranes had ruptured two nights before, and slight pains commenced next day, but did not come on regularly till about 8 a.m. on the 23rd. The tumour would just admit the passage of two fingers between it and the symphysis, and gave the impression both *per vaginam* and *per rectum* of a semi-solid mass like an œdematous fibroid. Reposition was attempted, but it was deemed advisable not to make a prolonged attempt. Arrangements were made for the immediate removal of the patient to the Middlesex Hospital. In consultation with Dr. Duncan, and after a further cursory attempt under an anæsthetic to raise the tumour out of the pelvis, Cæsarean section was decided upon. At 8.30 p.m. an incision was made through the abdominal wall, and the anterior aspect of the uterus exposed to view. An incision was then made into the uterus, and the placenta was seen to bulge into the wound. This was torn through, and the child was seized by the right foot and rapidly extracted. The placenta and membranes were then removed, and uterine hæmorrhage was arrested by means of compression and hot sponges. On examination of the pelvis a large semi-solid ovarian tumour was found attached by an elongated pedicle to the right side of the uterus. The tumour was non-adherent, and by drawing the uterus upwards and forwards it was released from the pelvis. The pedicle was ligatured with silk in two pieces and the tumour removed. The uterine wound was then sewn up, silkworm gut being used for the muscle, and fine silk to bring into apposition the peritoneal surfaces over the uterine incision. The abdominal wound was then closed. The patient was rather sick after the operation, and for the next few days had a cough and some physical signs of broncho-pneumonia. These rapidly passed off, and at the end of a week the temperature became normal. The patient made a good recovery. The child was strong and healthy, being well developed for eight months' gestation. On May 28th, 1896, the abdo-

minal wound was well united, but it was noted that the scar was deeply pigmented, as were also the cicatrices of the stitch-holes on either side of the middle line. When seen about three weeks ago the wound showed no sign of yielding, but the pigmentation had entirely disappeared. The catamenia have been re-established regularly. The child continues to thrive.

Remarks.—From the size of the tumour in this case, natural delivery, forceps, version, or even craniotomy was impracticable. Reposition of the tumour was twice attempted, first without, then with an anæsthetic; but in neither case were prolonged efforts made. Owing to the solid feel of the tumour vaginal puncture seemed decidedly contra-indicated, for the impression which it gave was that of a fibro-myoma. As it happened, even if the tumour had been punctured, little or no diminution in size could have been effected. Even if delivery could have been effected after puncture, the tumour itself would have remained as a source of danger and require to be dealt with subsequently.

The patient was living at no great distance from hospital, and it was consequently easy to arrange for the operation before the patient had become exhausted by prolonged labour; and as no protracted attempts had been made to push the tumour out of the pelvis, or by puncture or incision to reduce its size, the operation could be undertaken with a reasonable chance of success, the patient safely relieved of the tumour and delivered of a living child.

Vaginal incision with the object of removing the tumour, though it might in this case have been successfully accomplished, would, to my mind, have been taking a leap in the dark, as it affords a less certain means of determining the state of the pelvic organs than the abdominal method.

Finally, it may be noted that the pain complained of at the periods and during the pregnancy, was situated on the opposite side to the tumour, and probably had its origin in a constipated condition of the lower bowel.

ANNUAL MEETING.

February 2nd, 1898.

C. J. Cullingworth, M.D., President, in the Chair.

Present—53 Fellows and 1 visitor.

Books were presented by Professor von Winckel and Mr. Walter Heape.

S. Jervois Aarons, M.D.Edin., and Trevethan Frampton, L.R.C.P., were admitted Fellows of the Society.

George A. Auden, M.B., B.C.Cantab., was declared admitted.

The following gentlemen were proposed for election :—Percy Leonard Blaber, L.R.C.P.Lond.; Charles Edwin Purslow, M.D.Lond.; Arthur James Sturmer, Surgeon-Lieutenant-Colonel, I.M.S.; and Claude Wilson, M.D. Edin.

UTERUS RUPTURED DURING UNOBSTRUCTED LABOUR (WITH A MICROSCOPIC SECTION).

Shown by W. R. Dakin, M.D.

The patient from whom the specimen was obtained was an 11-para aged 40. She was admitted into the General Lying-in Hospital on January 10th, 1898, at 10 p.m., and

was in the first stage of labour, which had then lasted about nine hours. Former labours had been normal. During her present pregnancy she had been underfed, but beyond this no past medical history could be obtained. Her urine contained one eighth albumen. The pelvis was of normal dimensions, and the child was in the first vertex position. She was in fairly good condition.

The pains were of the ordinary character, but occurred at long intervals. At 6 a.m. on the 11th she had a few sharp pains, and on examination the os was found to be the size of a two-shilling piece. Slight bleeding now appeared. She got off the couch at her own request to pass water, and the membranes ruptured. The slight bleeding then ceased. The pains became stronger, and the os dilated completely. At 11.30 a.m. she was rather pale, and her pulse had risen to 100. She was soon after this easily delivered by the forceps, the head having descended into the cavity of the pelvis, and the os being above the greatest circumference of the head. The child was dead. There was no bleeding, and the woman seemed well. In a quarter of an hour or twenty minutes attempts were made to express the placenta, but were unsuccessful. Dr. Watson, the house physician, then introduced his hand into the uterus. He found, a little distance above the external os, a rent on the right side, and the placenta halfway through it. He extracted the placenta, and then severe collapse occurred. He sent for Dr. Dakin, and administered stimulants and a saline rectal injection, but the patient died in ten minutes.

The abdomen was found full of blood when it was opened. The uterus was well contracted. On its being removed from the body it was seen that the tear extended from a point a little above the internal os and three quarters of an inch below the retraction ring to the angle between the origins of the right Fallopian tube and round ligament, and measured $4\frac{3}{4}$ inches. The front of the right broad ligament was thrown back, and the round ligament forwards. The tear in the thinned lower seg-

ment was at its lowest part almost horizontal; it then became oblique, and in the retracted upper segment ran vertically. The placental site was torn through by the rupture. The peritoneal surface of the uterus was covered with shreds of fairly old lymph.

A microscopic section of the muscle of the lower segment was shown. The tissues were seen to be infiltrated with fat, and the muscle-fibres to be abnormally friable. The muscular wall of the upper segment was normal.

The case was interesting on account of the absence of any sign of rupture before the placenta was extracted and the tear discovered. In a series of seventeen cases of ruptured uterus recorded by Ashburton Thompson ('Obstetrical Journal of Great Britain,' vol. iii) the pains in nine only had been found to cease entirely, and in three labour ended without assistance, showing that marked signs of rupture by no means necessarily occur during labour when this accident happens. There was no possibility in this case of the tear having been caused by the forceps, for the head was in the pelvic cavity and the cervix above the greatest circumference of the head when the forceps was applied.

It was possible to account for this rupture by the malnutrition of the woman, who had albuminuria, and whose uterine muscle, of the lower segment at least (in which the tear no doubt began), was in a degenerated condition. The previous peritonitis, perhaps, had some influence in causing the degeneration, and she had had ten children before this one.

It was fortunate that no operation, such as version, had to be performed in her case, for the operator would, no doubt, have blamed himself had any laceration then occurred.

Dr. Ilott asked Dr. Dakin how long the patient had been in labour when forceps was used, particularly as to whether the first stage of labour had been unduly prolonged. It occurred to him that rupture might have been averted by a more timely employment of forceps.

Dr. John Phillips had encountered a somewhat similar case seven years ago. The woman was a healthy multipara with normal pelvis. After having been in labour six hours she was suddenly seized with pain and faintness. The head was found in the perinæum, and was quickly delivered with the forceps, and on passing the hand into the vagina a large rent was found in the posterior cul-de-sac through into the peritoneal cavity. The patient was in such a bad condition that any interference beyond stimulant was impossible, and she died shortly after. No post-mortem was allowed.

Dr. Handfield-Jones quoted a case which had come under his notice, and which presented some features of similar interest. The woman, a multipara, of stout, flabby build, succeeded after a long and severe second stage in expelling the head of the fœtus, then pains ceased and collapse set in before the shoulders could be born. The midwife sent for his assistance, but death ensued within a few minutes of his arriving at the patient's house, and before any measures of relief could be adopted. The child was of great size, and was delivered with difficulty after death. At the post-mortem the womb was found to be ruptured low down and posteriorly. The muscular tissue of the uterus was in a condition of marked fatty degeneration.

UTERINE FIBROID CLINICALLY RESEMBLING SARCOMA.

Shown by W. R. Dakin, M.D.

The specimen was removed by vaginal hysterectomy from a patient aged 38. She had had two children and one miscarriage, the miscarriage in the last pregnancy having occurred eight years ago. For two years she had had some menorrhagia, but for the last nine months she had continuously bled, at times very freely. The bleeding was accompanied by severe pain in the pelvis. A mass was found, apparently growing from the posterior uterine wall near the fundus. It was the size of an orange, and was diagnosed as a fibroid. On dilating the cervix, however, and introducing the finger into the

uterus, there was felt in the posterior wall, at a point corresponding to the centre of attachment of the tumour, a soft slightly raised surface, and on pressing the top of the finger here it was found to pass through soft tissue into what appeared to be a cavity filled with pulp, and there was free bleeding. A microscopic examination of some small masses of the substance which came away showed granulation tissue only. Dr. Dakin suspected sarcoma and removed the uterus. It appeared to him to be impossible to enucleate the tumour supposing it to have been a fibroid. It turned out to be a fibroid, completely softened in the centre, and beginning to slough. The patient made an uninterrupted recovery.

The specimen was shown entirely on account of its clinical interest. A sloughing fibroid was not considered a probable diagnosis because of the interstitial position of the tumour, its small size, and the absence of any possibility of its having sustained any damage. The woman was anæmic to the last degree, and this no doubt was the cause of the nutrition of the fibroid being sufficiently diminished to lead to its sloughing even under the favourable conditions in which it grew.

Dr. Champneys said that he had had a very similar case lately. The patient suffered from severe menorrhagia with an elongated uterine cavity, which was curetted without benefit. The cervix was dilated a second time, and on this occasion was easily expanded to admit the finger, which was not possible on the first occasion. The finger entered the uterine cavity, and on the posterior wall entered what felt like a cavity with definite edges. The idea of a perforation from the dilators, as also of a double uterus, suggested themselves. Further examination, however, found that the cavity was occupied by a soft solid, which was removed piecemeal, but completely, by forceps, leaving a smooth cavity. The material proved to be a softened œdematous fibro-myoma, not sloughing, but quite sweet. The involution of the uterus proceeded, and the patient is quite well.

Dr. Arthur Giles thought the following case, which was in some respects similar to Dr. Dakin's, might be of interest to the Fellows. A single woman, aged 40, had a myoma of the uterus. It had grown very rapidly, for he had had the opportunity of observing it from the first. Owing to excessive hæmorrhage he

decided to dilate the cervical canal, in order to explore the uterine cavity. In the course of the dilatation, which presented no difficulties, he had reached the size of a No. 14 Hegar, when there was a sudden rush of clear fluid from the uterine cavity. His first thought was that the bladder had been perforated; but he proceeded with the dilatation till the finger could be introduced. He then found that in the posterior wall of the uterus there was a hole through which the finger passed into a roomy cavity with rough surface and thick walls. It was evidently a fibro-cystic mass which had thus been inadvertently tapped. The proper uterine cavity passed in an upward and forward direction behind the pubes. Any possibility of injury to the bladder was set aside by the subsequent course of the case, which was in every way satisfactory while the patient remained in hospital. About six months later she developed the symptoms and signs of an acute pelvic inflammation which proved fatal. Unfortunately no post-mortem examination was allowed.

CANCER OF THE BODY OF THE UTERUS.

Shown by M. Handfield-Jones, M.D.

The patient, a multipara aged 56, had her menopause about fifty, but eighteen months ago began to suffer from uterine hæmorrhage. A year ago the uterus was curetted, and the scrapings were examined and reported to be in favour of non-malignancy. On examination the body of the uterus was found to be enlarged to the size of an orange and moveable. At the operation the cervix was freed from its attachments, the uterine arteries tied, and both the anterior and posterior fornices opened. On passing a finger high up in the peritoneal pouch it was found that omentum and intestine were adherent to the right cornu of the uterus. The abdomen was then opened, the omentum peeled off the womb, and a knuckle of small intestine, which had become fixed to the right cornu by a small portion of the disease perforating the peritoneum at the spot, dissected off and set

free. The patient was too collapsed to allow of resection of the small piece of infected intestine, but as a week had passed since the operation and the patient was convalescing satisfactorily it was hoped that this might be done later.

It was interesting to note in this case that the patient was a multipara, and that the microscopical examination of the scrapings removed by the curette had proved decidedly misleading. The combined vaginal and abdominal operation was not often required, but it was of the greatest value where any suspicion of intestinal adhesions to the uterus existed.

Annual Meeting.

The audited balance-sheet of the Treasurer (Dr. Potter) was read.

In moving the formal vote of thanks it was seconded by Dr. W. H. Tate, and carried unanimously—"That the audited report of the Treasurer just read be received, adopted, and printed in the next volume of the 'Transactions;' and that the most cordial thanks of the Society be accorded to Dr. Potter for his valuable services during his term of office."

Dr. Champneys said that in Dr. Potter the Society had one of the most devoted, unselfish, and public-spirited officers that it had ever had the good fortune to possess. As Treasurer his services had been of the greatest value. Although it had been thought that his election to the office of Trustee made it desirable that another Treasurer should be appointed, the Society would not lose his services. In the new Treasurer, Dr. Watt Black, it would

BALANCE-SHEET OF THE OBSTETRICAL SOCIETY OF LONDON.

(Abstract of the Receipts and Expenditure for the year ending December 31st, 1897.)

1897. RECEIPTS.		£ s. d.
To balance from 1896		190 16 8
„ (1) 4 Subscriptions for 1894		
19 Ditto ditto 1895	= 607	
76 Ditto ditto 1896	realising	637 9 0
492 Ditto ditto 1897		
16 Ditto ditto 1898		
„ (2) 1 Composition Fee at £10 10*s.*	£10 10 0	
6 Ditto at £5 5*s.*	31 10 0	
1 Ditto at £4 4*s.*	4 4 0—	46 4 0
„ (3) Midwives' Examination Fees and Certificates four Examinations (less Registrar's Commission = £29 10*s.*) . .		594 2 0
„ (4) Sale of 'Transactions' (Longmans) . .	£71 14 7	
Do. do. (Society) .	0 3 9	
Do. Midwives' Questions, and Rules . . .	0 13 5—	72 11 9
„ (5) Interest on Consols . .	55 16 8	
Ditto on Deposit . .	5 11 7—	61 8 3
Amount of Stock, 2¾ per Cent. Consols, standing in the names of the Trustees . . .	£2100 0 0	
On Deposit . .	250 0 0	
		£1602 11 8

Audited and found correct, February 1st, 1898.

(*Signed*) J. H. TARGETT.
ROBERT WISE.
ALFRED S. GUBB.
JOHN PHILLIPS.
W. R. DAKIN.

1897. EXPENDITURE.		£ s. d.
By (1) 'Transactions,' Vol. XXXVIII, Printing, Paper, Binding, Delivery, Engraving, Illustrations, &c.		339 15 0
„ (2) Library:		
Books purchased . .	£33 17 3½	
Binding . . .	14 13 0—	48 10 3½
„ (3) Museum and Library:		
Rent . . .	200 0 0	
Salary of Librarian .	130 0 0	
Repairs to Furniture, Cleaning, Coals, &c. .	27 3 8—	357 3 8
„ (4) General Meeting and other Expenses:		
Expenses of Meeting .	£21 19 0	
Stationery and Stamps .	47 14 7—	69 13 7
„ (5) Examination of Midwives:		
Fees to Examiners . .	289 19 0	
Cheque not cleared in 1896	31 16 4	
General Expenses . .	65 1 8½—	386 17 0½
„ (6) Extraordinary Expenses:		
Legal . . .	4 1 8	
Jubilee Illuminations .	3 3 0	
Fire Insurance for 7 years	1 16 0	
Issue of copies of Dr. Champneys' Address and Engrossing Diploma .	5 6 6—	14 7 2
„ (7) Banking Expenses:		
Commission on Cheques and Cheque-book		0 12 4
„ (8) Balance as per Bank Book . .		235 12 7
On Deposit		150 0 0
		£1602 11 8

have an able and experienced financier, who had for many years taken an active interest in its welfare.

Report of the Honorary Librarian.

I have to report that during the past year 131 volumes have been added to the Library; 43 of these were presented and the remainder purchased.

759 visits were made by Fellows to the Library.

WALTER S. A. GRIFFITH.

It was moved by Dr. HORROCKS, seconded by Dr. McCANN, and carried—"That the report of the Hon. Librarian be received, adopted, and printed in the 'Transactions.'"

Report of the Chairman of the Board for the Examination of Midwives.

The number of candidates presenting themselves for the certificate of the Society is still on the increase. During 1897, 590 women have applied, which is an increase of 89 on the previous year, and nearly six times as many as came up in 1886—a rate of growth which shows how greatly the distinction of our Certificate is appreciated. Of these 590, 523 passed, 49 failed, and 18 were absent.

From the year 1872 to 1896 the total number of candidates was 3426, of whom 2943 passed, 436 failed, and 47 were absent.

The total number now on the Register, including those admitted in January, 1898, is 3604.

It is felt that the time has come when the duties of these midwives should be defined, and the Board is at the present time engaged in drawing up rules and regulations for their guidance.

It speaks well for the class of women on our Register

that so few cases of misconduct or errors of judgment come to the knowledge of the Board.

PERCY BOULTON.

Dr. J. WATT BLACK moved—"That the report of the Chairman of the Board for the Examination of Midwives be received, adopted, and printed in the 'Transactions.'"

This was seconded by Dr. LEONARD REMFRY and carried.

The PRESIDENT then delivered the Annual Address.

ANNUAL ADDRESS.

In selecting a subject for his address on taking office, your President has full liberty of choice. It is not so when it comes to the address at the close of the Session. Tradition and custom have here marked out certain definite lines which it behoves him to follow. It is his duty to lay before the Fellows a statement of the present condition of the Society, a review of its work during the past session, and some account of the life and labours of the Fellows whom death has taken from us during the year.

First, then, permit me to say a few words as to the present condition of the Society. At the beginning of the year I ventured to give expression to my belief that we should have a peaceful session. It seemed likely that certain burning questions would, at least for a time, be allowed to rest. I am happy to say that this prediction has been fulfilled. During the past year the Society has not been disturbed by any of those menaces from without that two years ago led my predecessor to compare the Society to "Andromeda chained to a rock and momentarily expecting destruction."

The Report of the Chairman of the Board for the Examination of Midwives has shown that the alterations made in the Society's Certificate, to meet the wishes of the General Medical Council, have not had the effect of diminishing the number of candidates. So far from this being the case, the work devolving upon our Examiners is continually increasing, and the Society's Certificate is in greater demand than ever. This is to be accounted for partly by the fact that the Certificate of this Society, being granted after an examination conducted not by the candidates' own instructors, but by an independent body

of Examiners, is found to be a more valuable possession, by applicants for public appointments, than any other Midwives' Certificate granted in England, and partly also by the increasing proportion amongst the candidates of women of intelligence and education, who, when once they have made up their minds to qualify themselves for examination, are not content until they have obtained the Certificate that stands the highest in professional esteem. But notwithstanding the success that has attended the scheme of voluntary examination instituted by the Society, it must be clearly understood that the Society undertook the work merely as a temporary expedient, and from a sense of public duty, after having tried in vain to induce the Government to move in the matter; and that it will only be too glad to relinquish it whenever the State can be prevailed upon to take upon itself functions that properly belong to it, and that it alone can adequately fulfil.

The number of Fellows on our roll has somewhat diminished during the past year. On January 1st, 1898, the total number was 711, comprising 8 Honorary Fellows, 3 Corresponding Fellows, and 700 Ordinary Fellows. On January 1st, 1897, the total number on our list was 741. During the past year 9 Fellows have died, 24 have resigned, and 20 have had their names removed for non-payment of their subscription. On the other hand, only 23 new Fellows have been elected. This is too small a number to fill the gaps occasioned by the various circumstances which I have indicated, and which are inevitable in every human society. I sincerely hope that we shall all of us during the coming year endeavour to enlist in our ranks at least one, if not more, of our younger brethren. The harvest is plenteous, and more labourers are needed. The unsolved problems and unexploded errors in obstetrics and gynæcology are still legion, and this Society will always give a hearty welcome to good scientific work, by which alone these problems can be solved and these errors rectified. Nothing in the way of official application or canvass can ever be so effectual as the personal appeal of one friend

to another, and I earnestly beg those of you who have yourselves felt the benefit of the stimulus of association to try to induce at least one friend to follow your example and join our Society during the current year.

The Society has during the year 1897 lost two of its Trustees,—one, Sir Spencer Wells, by death; the other, Dr. Robert Barnes, by resignation. Of the life and work of Sir Spencer Wells I shall speak presently. With regard to the resignation of Dr. Barnes, I am quite sure that I shall only be expressing the feelings of every Fellow of this Society when I characterise that occurrence as an event that from every point of view is greatly to be regretted. As one of the leading British obstetricians of the latter half of the present century, as an original Fellow and past President of this Society, and as a contributor to its 'Transactions' of no fewer than thirty-two papers, Dr. Barnes is rightly held to have been one of the most distinguished Fellows whose names have appeared on the Society's roll. It was therefore, as you may imagine, with much sorrow that your Council received the announcement of Dr. Barnes's wish (for reasons doubtless satisfactory to himself) to resign his Fellowship, and to be relieved of his office as Trustee. Dr. Barnes was urged to reconsider his decision, but as he was unable to see his way to do this the Council had no alternative but to accept the resignation. The two vacant Trusteeships were filled by the election of Sir John Williams and Dr. J. Baptiste Potter, both of them past Presidents of the Society, warmly attached to it, and ever ready to watch over and defend its interests.

The papers read during the past year may for convenience be classified into obstetrical and gynæcological. The obstetrical papers were six in number.

1. The first was a paper on "Breech Presentation with Extended Legs," by Dr. W. S. A. Griffith and Dr. Arnold Lea, read at the January meeting. Notes were given in the paper of seventeen cases of this presentation, and remarks were made upon the diagnosis, the course of labour, the

mechanism of delivery, the frequency of its occurrence, the prognosis with regard to the child, and the management. An interesting discussion followed, which was greatly facilitated by the admirably concise manner in which the authors summarised their conclusions at the close of their communication.

2. "The Treatment of Placenta Prævia by Champetier de Ribes' Bag" formed the subject of a paper by Dr. G. F. Blacker, read at the April meeting. The author gave the details of five cases treated by himself in this way, and seventeen cases similarly treated by others. The bag was employed by introducing it into the amniotic cavity after rupture of the membranes. In only one case did severe hæmorrhage occur after its introduction. Of the mothers, one died of septicæmia, probably contracted before admission to the hospital; five had an insignificant elevation of temperature during the puerperium, and the rest made an uninterrupted recovery. Of the twenty-two children, eight were born dead, and four died subsequently, giving a total mortality of 54·5 per cent. No difficulty was experienced in introducing the bag, and preliminary dilatation of the cervix was found unnecessary. The author enumerated the advantages claimed for this mode of treatment, including especially a diminution in the fœtal mortality, and concluded by a consideration of the objections that had been raised against it. In the discussion that followed the speakers expressed themselves as disposed, for the most part, to regard this mode of treatment with favour, as a preferable alternative to version in certain cases.

3. At the May meeting Mr. J. W. Taylor of Birmingham contributed a paper on "A Second Case of Abdominal Pregnancy successfully treated by Removal of Child and Placenta three months after Death of Child at Term." The pregnancy had progressed to full term within the abdomen of the mother, protected only by the thin sac of the amnion, and without being accompanied by any of the usual symptoms of rupture, such as pain, sudden illness, or

fainting. By securing all the pelvic attachments, either by Doyen's elastic forceps or ligature before separation, the placenta, which weighed 3 lbs., was removed without any loss of blood.

4. In a paper on "Parturition during Paraplegia, with Cases," Dr. Amand Routh availed himself of the exceptional opportunity for physiological observation that had been afforded him by the occurrence of a case of complete paraplegia which he had been able to watch not only during labour, but during the preceding months, and also during the puerperium. The patient experienced a painless labour. The uterine contractions were ill-defined, often without intermission, and occasioned no distress beyond a feeling of tightness at the epigastrium. The first stage lasted ten hours, the second two hours and a quarter. There was no undue hæmorrhage, in spite of retraction being for some hours unsatisfactory, and the processes of involution of the uterus and lactation were quite normal. The author discussed the various views that have been held as regards the physiology of parturition, and described cases by other observers, and some experiments on animals bearing on the question. An interesting and most instructive discussion followed, in which the Society had the advantage of hearing the opinions of several distinguished physiologists, all of whom bore testimony to the value of Dr. Routh's paper, and the admirable manner in which he had discussed the physiological questions involved.

5. At the July meeting Drs. Giles and Maclean contributed a paper on "Two Unusual Cases of Tubal Gestation—the one causing Chronic Intestinal Obstruction, and accompanied by a Hæmatosalpinx of the Non-gravid Tube; the other simulating Retroversion of the Gravid Uterus." The lessons to be drawn from these cases are that "if a tubal gestation be diagnosed before rupture takes place, the possible train of disasters will be best averted by immediate operation;" and that any "pelvic tumour which does not conform to recognised types in

regard to its signs and symptoms should be dealt with surgically at once, and not treated by the expectant method."

6. "The Obstruction of Labour by Ovarian Tumours in the Pelvis" was the subject of a valuable paper by Dr. R. G. McKerron, of Aberdeen, read at the December meeting. In addition to giving the details of two hitherto unpublished cases the author had prepared tables of 183 collected cases of this complication, and drew attention to some features of interest in the clinical histories. From a study of the cases and of the literature of the subject he deduced the following practical observations in regard to treatment:—"Reposition should in all cases be first attempted. Where it failed a selection according to circumstances should be made from the following operative measures:—puncture, Cæsarean section, abdominal or vaginal ovariotomy." The paper concluded with remarks on the after-treatment in those cases where the tumour had not been removed during labour. The discussion on this paper was, owing to the lateness of the hour, adjourned to the January meeting of the present year, when one or two other communications bearing on the subject were submitted, and were followed by a spirited and useful debate, marred only by the unavoidable absence of the author of the paper, which deprived the Society of the advantage of hearing his reply.

The other papers read during the past session, also six in number, were gynæcological.

1. The first of these was on "The Cyclical or Wave Theory of Menstruation, with Observations on the Variations in Pulse and Temperature in Relation to Menstruation," by Dr. Giles, read at the March meeting. The author's investigations led him to conclude that the cyclical theory, as ordinarily stated, is an insufficient explanation of the origin of menstruation. In a modified form, however, he thought it might be accepted as giving a connected idea of the meaning of menstruation, which

might be looked upon as a repeated preparation for the reception and nutrition of a fertilised ovum. Failing the arrival of such an ovum menstruation had been correctly described as a "missed pregnancy."

2. The next paper was on "Chronic Axial Rotation of an Ovarian Cyst giving Rise to Extreme Twisting of the Elongated Uterus," by Dr. Thos. Wilson, of Birmingham, read at the May meeting. The literature of the subject was referred to, but the author had been unable to find any reported case in which rotation of an ovarian cyst had caused an equally extreme amount of twisting of the uterus. On the other hand, extreme twisting of the uterus, even to the extent of complete separation of the body from the neck, had been met with several times in connection with fibro-myoma of the uterus itself.

3. At the June meeting Dr. Lewers contributed a paper on "A Case of Primary Sarcoma of the Body of the Uterus in a Patient Twenty-four Years of Age, treated by Vaginal Hysterectomy." The growth had been examined by several competent pathologists, and had been pronounced to be identical with what had been described under the name of "deciduoma malignum." But although the patient, who had been married a year, believed that she had had three miscarriages, the author, after considering the evidence, expressed some doubt as to whether conception had ever occurred.

4. A paper by Mr. Doran on "The Management of True and False Capsules in Ovariotomy" was read at the October meeting. Where the capsule was formed by mesentery, omentum, or inflammatory deposit the author termed it a false capsule; where it was formed by the mesosalpinx alone he termed it a true anatomical capsule; and where it involved the lower part of the broad ligament, the parietal peritoneum, or the parametrium, a false anatomical capsule. The treatment of the first variety he described as a simple breaking down of adhesions. The treatment of the second and third varieties was a more complicated matter. When the capsule was healthy he

advised that it should be cut away if possible. When no pedicle could be formed, the tissue of the capsule being healthy, and the hæmorrhage being under control, the capsule might be let fall into the pelvis. But where under similar conditions the capsule showed advanced inflammatory changes, or hæmorrhage was hard to control, he recommended fixation of the capsule by stitching it to the lower end of the abdominal wound and drainage. In the interesting discussion that followed the speakers expressed a general concurrence with the author's views.

5. At the November meeting a paper by Mr. Bland Sutton was read on "Abdominal Hysterectomy for Myoma of the Uterus, with brief Notes of Twenty-eight Cases." The author considered that the time had arrived when it had become a medical adviser's duty to point out to patients with uterine myomata that early removal involved less operative danger and a diminished peril to life. He avoided the removal of the ovaries and tubes during the operation wherever it was possible. He thought the proper place for the clamp and serre-nœud was a corner of the museum devoted to obsolete instruments, and he regarded the subsequent use of an abdominal belt as a foolish following of a useless custom.

These iconoclastic observations were not allowed to pass without some notes of dissent, and several of the speakers who took part in the subsequent debate expressed the opinion that, as a large number of uterine fibroids remained stationary and harmless, early operation was not to be universally recommended. Ovarian and uterine tumours, it was contended, were not comparable as regards the necessity for operative interference. Mr. Sutton wound up the debate with a spirited reply. Readers of this discussion will do well to supplement it by a reference to that which followed the paper on a similar subject read in 1896 by Mr. Harrison Cripps.

6. A paper on "Three Cases of Pyometra complicating Cancer of the Cervix Uteri" was contributed at the December meeting by Dr. Walter Tate. Out of twenty-

eight cases of vaginal hysterectomy the author had met with pyometra on no fewer than three occasions. In the discussion that followed Dr. Amand Routh pointed out the importance of the fact to which the author's cases bore witness, that pyometra might exist without stenosis of the cervix.

The exhibition of specimens has always, to my mind, formed a very important and valuable part of the Society's work. Since there has been introduced into our regulations a little more elasticity in regard to the time allowed for these minor communications, the number and value of them have decidedly increased. I purpose following the example of some of my predecessors, and enumerating the chief specimens shown during 1897, not in the order of their exhibition, but arranged in groups according to the subject intended to be illustrated—a method which, I think, adds to the interest and usefulness of this annual *résumé*. Taking first, then, the subject of the physiology of menstruation, at the December meeting Dr. Arnold Lea, of Manchester, showed some microscopic sections of uterine mucous membrane made immediately before and immediately after a menstrual period.

Mr. Targett showed in May an interesting anatomical abnormality in the shape of accessory adrenal bodies in the broad ligament, and made some valuable remarks on the frequency of their occurrence.

The comparative anatomy of pregnancy was illustrated by the exhibition of Dr. R. Wise at the October meeting of a pregnant horn from the uterus of a cat.

The pathology of uterine pregnancy and labour in the human female was illustrated by the following specimens.

(1) An abortion sac with hæmorrhages into the fœtal membranes, shown by Dr. Robert Wise at the October meeting.

(2) An intra-pubic joint producing diminution of the pelvic inlet, shown by Mr. Targett for Dr. Williamson at the meeting in November.

(3) The uterus from a case of Porro's operation with

intra-abdominal treatment of the stump, shown by Dr. W. J. Gow at the January meeting.

(4) A uterus ruptured during premature labour, and removed by abdominal section, shown by Dr. John Phillips in October.

(5) Ruptured gestation in an imperfect uterine horn, shown by Mr. Targett in February.

Four teratological specimens were exhibited, viz. a fœtal monstrosity by Dr. John Phillips in February, a monster (with skiagraph) by Dr. Lewers in April, and in the same month a deformed fœtus and a fœtus compressus by Mr. Bottomley.

The ever fascinating subject of ectopic gestation, which still needs for its full elucidation all the light that observation can shed upon it, received illustration from the following specimens :

(1) A ruptured tubal pregnancy with hæmatosalpinx of the opposite side, shown by Dr. Lewers in June.

(2) Early ectopic gestation (tubo-uterine) with escape of the fœtus into a diverticulum, and complicated by fibro-myomata of the uterus, shown by myself at the November meeting.

(3) Ectopic pregnancy going nearly to term in the peritoneal cavity, the operation for its removal having been undertaken under the belief that it was a fibroid, shown by Dr. Herman in April.

(4) A decidual cast of the uterus from a case in which there was no evidence of extra-uterine gestation, shown by Dr. Eden in April.

Inflammatory and tuberculous affections were illustrated by the following four specimens :

(1) Encysted tuberculous peritonitis shown in April by Mr. Targett, who made some remarks on the effects produced by tuberculous peritonitis upon the female pelvic viscera. (2—4) Three cases of pyosalpinx : one shown in March by Dr. W. Duncan ; one complicated by multiple abscesses of the ovary, the pus from which has since been examined by Dr. McCann with the result of demonstrating

the presence in it of gonococci, shown in February by myself; and one complicated by an enlarged bladder, shown in December by Dr. Macnaughton Jones.

As one would expect, tumours and new growths constitute a considerable proportion of the specimens exhibited. Beginning with those of the uterus, at the December meeting Dr. McKerron showed, for Prof. Stephenson of Aberdeen, a peculiar mucous polypus or pedunculated adenoma of the cervix uteri. At the January meeting Dr. Amand Routh showed a malignant papilloma of the uterus. The number of specimens of uterine fibro-myomata exhibited to the Society affords marked evidence of the special interest at present attaching to these tumours and their treatment. Some were shown to illustrate some particular method of operating, as in the case of the specimens presented at the March and November meetings by Dr. W. Duncan, that shown by Dr. Lewers in April, and those exhibited at the December meeting by Dr. Macnaughton Jones. Others were brought forward on account of some point of peculiarity or interest in the specimen itself, in the history, or in the patient. Thus Mr. Bland Sutton at the May meeting illustrated the subject of fibro-myomata of the neck of the womb, whilst Dr. W. Duncan, in November, showed a specimen in which, along with a large fibro-myoma of the uterus, there had become developed a tumour of the left ovary.

The question of age in reference to these tumours was illustrated by a specimen which Dr. A. F. Stabb showed for me at the March meeting, where the patient was only twenty-six, and by Dr. Galabin's specimen shown at the June meeting, where the tumour had developed rapidly in a patient aged sixty-three—long, therefore, after the menopause. As affording illustration of the modes in which fibro-myomata may destroy life, I showed in connection with Mr. Bland Sutton's communication in November, a specimen in which an interstitial fibro-myoma had become gangrenous, and another in which a subserous fibro-

myoma had pressed on the rectum, caused obstruction, and ultimately been the cause of death from thinning and eventual giving way of the dilated intestine above the seat of obstruction.

Malignant disease of the uterus was exemplified by four specimens—one each, curiously enough, of carcinoma of the cervix, carcinoma of the body, sarcoma of the body, and sarcoma of the cervix. The specimen of carcinoma of the cervix was shown by Dr. Playfair in November, the interesting point about it being that two years previous to the operation for its removal, the patient had had both ovaries and Fallopian tubes removed. The specimen of carcinoma of the body was shown by Dr. Dauber in December, and was interesting from the disease having occurred in a uterus already myomatous. The uterus was removed by the operation of so-called pan-hysterectomy. The specimen of sarcoma affecting the body of the uterus was shown by Mr. Targett for Dr. Williamson in November. The disease had been followed by inversion of the uterus. The specimen of sarcoma affecting the cervix was exhibited by Dr. McCann at the meeting in October.

New growths springing from the ovary and parovarium were illustrated by several specimens.

In April Dr. Drummond Robinson showed cystic ovaries removed by the operation of anterior colpotomy. In January (1897) Dr. Arnold Lea, of Manchester, showed a parovarian cyst with axial rotation. Dr. C. H. Roberts, Mr. Doran, and myself, each showed a specimen of fibroma of the ovary. In Dr. Roberts's case, shown in January, the tumour had undergone calcareous degeneration. In Mr. Doran's case, shown in February, the patient had ascites, and the tumour before removal had become impacted. My own specimen, which occurred in a young subject and was of large size, was shown in November, and will be fully described in the 'Transactions.'

The remaining specimens, all of them new growths, consisted of a molluscum fibrosum of the labium majus,

shown in June by Dr. Giles, and two tumours shown by Mr. Doran in February, viz. a lipoma of the lumbar region, four pounds in weight and of twenty years' growth, and a fibroma of the abdominal wall which had undergone considerable increase in size during pregnancy, and had been removed by Mr. Doran five weeks after the patient's delivery.

It will thus be seen that there has been no lack either of interest or variety in the specimens brought before the Society during 1897.

The Society's death-roll for the past year contains, so far as we have information at present, the names of six ordinary Fellows and three honorary Fellows. Of the six ordinary Fellows one at least was of such world-wide fame as to call for a somewhat extended notice. I allude of course to

Sir Thomas Spencer Wells.

Spencer Wells, as he was more familiarly called, was born on February 3rd, 1818, and was the eldest son of the late Mr. William Wells, of St. Albans, Hertfordshire. He was apprenticed, after the fashion of the time, to the late Michael Thomas Sadler, of Barnsley, in Yorkshire, "an unusually able and worthy man." After this fortunate experience he went to Leeds, and while still a youth of seventeen held for a little more than a year the position of unqualified assistant to one of the parish surgeons. During this time he saw much practice in the Leeds Infirmary, always one of the foremost provincial hospitals in operative surgery. He also attended the lectures of the second William Hey and the elder Teale. To the teaching of both these eminent men he always referred with expressions of the warmest appreciation. From Leeds he went to Trinity College, Dublin, and whilst there he worked under Graves, Stokes, Sir Philip Crampton, and Beattie. In 1839 he proceeded from Dublin to London, and entered as a student at St.

Thomas's Hospital, where he had the advantage of working under several distinguished men, notably Joseph Henry Green, Benjamin Travers, and Frederick Tyrrell, whose manipulative skill in ophthalmic surgery especially delighted him. At the end of his first session he secured the prize offered for the most complete and detailed reports of the post-mortem examinations made in the hospital during the session. After another year spent at St. Thomas's he obtained his diploma of membership of the Royal College of Surgeons of England, and, led no doubt by his love of travel and his fondness for a seafaring life he, in the same year (1841), entered the Royal Navy as an assistant surgeon. For the next six years he served in the naval hospital at Malta. His practice in that island was not limited to his hospital work; the civil population also benefited by his advice and operative skill, and his ophthalmic practice is said to have been considerable. In 1848 he left the navy and proceeded to Paris in order to study pathology. The medical school of Paris was at that time the most famous in Europe. The galaxy of brilliant teachers to be found there attracted students and medical practitioners from all countries. Majendie was then at the zenith of his popularity, and Claude Bernard was rapidly coming into notice. Spencer Wells was always fond of alluding to his residence in Paris as being the period when his attention became directed for the first time to the subject of ovarian disease. Amongst his English fellow-students in Paris was the late Dr. Edward Waters, of Chester, with whom he often joined in friendly debate on professional topics. The ultimate result of their many discussions on the particular question of operation in ovarian disease was an agreement in opinion that as surgery then stood ovariotomy was an unjustifiable operation. At this time Wells had not only never witnessed the operation, but had never to his knowledge seen a single case of ovarian disease.

He finally settled in London in the year 1853, and in the following year he became attached to the Samaritan

Free Hospital for Women, which had then only been in existence for about seven years, and consisted merely of an out-patient department. It was about this time that he became for a short period the editor of the 'Medical Times and Gazette.' In this capacity he was brought into close personal contact with many of the more prominent members of his profession. In April, 1854, Spencer Wells was present when Mr. Isaac Baker Brown, assisted by his friend Mr. Thos. Nunn, performed his eighth ovariotomy. It was the first operation of the kind he had seen. The case ended fatally from peritonitis, and indeed Baker Brown's mortality was so heavy (seven cases out of the first nine) that that skilful operator gave up all hope of being able to establish the legitimacy of the operation. The needed stimulus to Spencer Wells was destined to come from an unexpected quarter.

Shortly after the Crimean war had broken out he obtained leave of absence at the Samaritan Hospital, and relinquishing for a time both his hospital and private practice went out to Smyrna, where he was appointed surgeon to the British Civil Hospital. Both here and afterwards, when he was closely associated with the late Dr. Parkes, he had unusual opportunities of studying the effects of gunshot wounds, especially those of the abdomen. He was greatly impressed with the amazing tolerance of the peritoneum. He noticed that the abdominal walls might be lacerated by fragments of shell, that the intestines might protrude for hours and be covered with dust and dirt, and yet that if the cavity was carefully cleansed and the wounds accurately closed, recovery was by no means impossible. Thus he gained knowledge which became of much use to him in his subsequent work, and he frequently stated in after years that it was his experience in the Crimea that in great measure encouraged him to persevere.

Before leaving England for the Crimea in 1854 Spencer Wells, finding that there was no chance of his obtaining a surgical appointment at any of our large general hos-

pitals, had attached himself to one of the best private medical schools, the Grosvenor Place or Lane's School, close to St. George's Hospital, which at that time had no anatomical department immediately connected with it. At this school he lectured on surgery in conjunction with Mr. Geo. Pilcher. He gave to his lectures the character of a conversation with his class, interspersing his remarks with questions suddenly addressed to individual students. This innovation rendered his lecture-room exceedingly popular. On his return from the Crimea in 1857 he resumed his teaching (his friend Mr. Wm. Adams having acted as his deputy during his absence). Eight years later the Grosvenor Place medical school became merged in the school of St. George's Hospital.

It was in the year 1857 that Spencer Wells performed his first ovariotomy. Baker Brown assisted him. The operation could not be completed. Wells, however, did not allow himself to be discouraged, and in the following year he operated a second time, and on this occasion with success. From this time forward Spencer Wells constituted himself the champion of the operation of ovariotomy, and all the world knows how completely he succeeded in converting opponents and establishing the operation on a recognised basis. "On taking up this subject," he says, "as a matter of study and trial, just at the crisis when obloquy was the thickest and opposition the strongest, I felt that nothing but the most open frankness would carry conviction of success, or in case of failure justify the operation. I therefore pledged myself to make known through the press all that I did and all that befel me." This pledge he loyally fulfilled. Case after case was recorded in the medical journals, and eventually the cause, to the furtherance of which Spencer Wells had with characteristic determination and force of will devoted himself, won its way to recognition and final triumph. "The complete history of ovariotomy," wrote Mr. Nunn in 1886, "might be described as a thirty years' war of fact and experience against venerable and multifarious

prejudice." In this long and hard-fought struggle Spencer Wells bore by far the most laborious and conspicuous part. His ultimate success in vanquishing prejudice and in securing recognition for ovariotomy as a legitimate and beneficent addition to the resources of the operating surgeon was the result of indomitable perseverance, of strong personal conviction, of minute attention to detail, and of the fearlessness that comes from absolute honesty and singleness of purpose. He was helped, as Mrs. Garrett Anderson has well said, "by a temperament of quite amazing cheerfulness and elasticity. He knew," she continues, "that he was doing his best to perfect the operation and to save life, and he did not allow himself to be discouraged by failure in whatsoever shape it came. He had the courage to be hopeful and confident and encouraging in the face of a number of disappointments which would have made many other equally good surgeons more or less discouraged and self-distrustful. Wells always gave a patient the impression that *he* was quite sure, and that *she* might be quite sure that all would be well with her in his hands. Not that he blinked facts and statistics. Everything was honestly told, but his radiant optimism was infectious, and the patient forgot there was any risk to speak of in what he was about to do. Nothing," concludes Mrs. Anderson, "is more contagious than optimism, and to a medical practitioner it is a weapon of the greatest value, always provided that he can keep his own eyes out of the sunlight sufficiently to see straight."*

In 1865 Spencer Wells published a record of 114 cases. This was followed in 1872 by an account of 500 cases, and again in 1882 by a report of 1071 cases. His literary career began by the publication, a year or two after his term of service in the navy had expired, of a useful 'Scale of Medicines for Use in the Mercantile

* "On the Progress of Medicine in the Victorian Era." Presidential Address to the East Anglian Branch of the British Medical Association. Macmillan, London, 1897, pp. 16, 17.

Marine.' This was followed in 1854 by a dissertation on 'Gout and its Complications.' His first work in book form on the subject with which his name is chiefly associated, appeared under the title of 'Diseases of the Ovaries' in 1865. About the same time he published a 'Note-book for Cases of Ovarian and other Abdominal Tumours,' intended as an aid towards increasing the knowledge of these diseases. In 1882 he issued a larger work, embodying the substance of the two publications already mentioned, and containing an accurate and detailed account of his personal work up to that time. In 1884 he delivered an historical address on the revival of ovariotomy. A chronological list of his numerous contributions to medical literature will be found in the appendix to this address.

He was a strong advocate of the disposal of the dead body by cremation, and wrote a forcible and outspoken letter on the subject to the 'Times,' in which he pointed out the enormous advantages of the system from a sanitary point of view.

In 1844 Spencer Wells received from the Royal College of Surgeons the honorary Fellowship of the College. He was one of the original Fellows of this Society, served on its Council in 1859, held the office of Vice-President from 1868 to 1870, and at the time of his death was one of its Trustees. He contributed several papers to its 'Transactions.'

In 1871 he was elected a Member of the Council of the Royal College of Surgeons, in 1877 he became Hunterian Professor of Surgery and Pathology, and in 1879 he was advanced to the position of Vice-President. In 1883 he was elected President of the College, and in the same year he delivered the Hunterian Oration before the College. A few years later he was appointed Morton Lecturer on Cancer, and in 1890 he delivered the Bradshaw lecture, choosing for his subject "Modern Abdominal Surgery." In this lecture he took occasion to raise his voice against rash and unnecessary operations

on the organs of the female pelvis, and was, perhaps, somewhat too sweeping in his condemnation. He did not sufficiently discriminate between operations undertaken merely for the relief of pain and those very different operations performed for the removal of organs obviously and hopelessly diseased. For him, all tubal operations and all operations for ovarian disease other than new growth were mischievous and unjustifiable. He regarded them as in the same category with operations for the removal of the healthy ovaries as a means of curing nervous affections. This attitude on the part of one who had himself in his earlier days fought bravely for the recognition of ovariotomy, of which all these later operations were the direct and inevitable outcome, was the subject of regret to many of his admirers. It was, however, recognised as an expression of honest conviction and as simply one more proof that men with even the most vigorous intellects may become, when past a certain age, unable to assimilate new ideas or adequately to appreciate new developments, even in the branch of work which they themselves have laboured to advance.

The list of honours conferred upon Sir Spencer Wells is a long one. He was an honorary Fellow of the King's and Queen's College of Physicians in Ireland, and received the honorary degree of M.D. from the Universities of Leyden, Bologna, and Charkof. He was a Knight Commander of the Norwegian Order of St. Olaf. He was elected an honorary Fellow of the American Gynecological Society, and a Member of the Medical Societies of Paris, Moscow, and Stockholm, and of the Obstetrical and Gynæcological Societies of Berlin and Leipzig. He held the appointment of Surgeon to the Royal Household until a very short time before his death; and in May, 1883, Her Majesty the Queen conferred upon him the dignity of a baronet "in recognition of his services to medical science and to humanity."

Sir Spencer took great interest in public questions, and was, when in his prime, always attracted by move-

ments of progress. He was a most genial companion, and an excellent host.

When travelling in India about four years ago he was attacked with influenza, and paralytic symptoms, chiefly affecting the speech, slowly developed. But almost to the last he was to be seen at the principal gatherings of the medical profession. Two months before his death he went with two of his daughters to the south of France. On the morning of Sunday, January 31st, 1897, he was seized with apoplexy whilst staying at Cap d'Antibes, near Cannes. He died the same evening, just within three days of his seventy-ninth birthday.

More fortunate than many pioneers, he lived to see his principal life-work crowned with the most abundant success. He lived also to see his claim to recognition as a great surgical benefactor acknowledged throughout the world.

I now pass on to speak of the other deceased Fellows, taking them as far as possible in the order in which the deaths occurred.

Thomas Edward Parsons

was a popular and successful general practitioner at Wimbledon, where he joined his brother in partnership twenty-five years ago. He had studied medicine at St. Mary's Hospital, and had become qualified in 1869. He was a laborious worker at his profession, and exemplary in all his domestic relations. The extra work entailed by the severe epidemic of influenza which visited Wimbledon some three winters ago made serious inroads upon his health, and for many months before his death he was known to be suffering from diabetes. He took a long holiday abroad in the summer of 1896, and returned to work feeling considerably better. But the anxieties and fatigues of practice soon told upon him prejudicially, and at Christmas he again left home for a six weeks' sojourn

at Mentone. The regard in which he was held by his friends and patients was shown by their sending him whilst abroad a letter of sympathy along with a purse containing a hundred sovereigns. He wrote home cheerfully and expressed himself as feeling much better, but when he returned to Wimbledon at the beginning of March, 1897, it was only too evident that he was in a very serious condition. It was his earnest desire to die in harness, and this wish was gratified, for when he died, peacefully as though he were falling asleep, on the 17th of March, he had only been confined to bed for twenty-four hours. He was attended professionally by Dr. Mitchell Bruce and Sir Wm. Broadbent. His Fellowship of the Society dated from 1889. At the time of his death he had just completed his fifty-first year.

William Gardner

became a Fellow of our Society in 1892. He graduated at Glasgow in 1874, and took his degree of M.D. in 1876. For many years he was recognised as the leading surgeon in Adelaide, South Australia, and more recently had held a distinguished position as a surgeon in Melbourne. At the recent Intercolonial Medical Congress held in Sydney, Dr. Gardner presided over the surgical section. He was joint founder with Dr. D. Grant of the 'Intercolonial Medical Journal,' and had made a distinct mark in the annals of Australian surgery by his contributions on the subject of the surgical treatment of hydatids. He was returning home after a visit to Europe, undertaken for the benefit of his health, when he died suddenly of paralysis at Naples, at the age of fifty, on the 1st of April, 1897.

Reginald Clarke

was the son of a well-known London architect and writer. He was educated at Uppingham, and afterwards entered as a student at the medical school at King's College

Hospital, where he held the appointment of resident accoucheur. He became a Licentiate of the Society of Apothecaries in 1876, and received the diploma of membership of the Royal College of Surgeons in 1878. He succeeded to the practice of Mr. Chittenden, of Lee, where he carried on his profession up to the time of his death. He was surgeon and anæsthetist to St. John's Hospital, Lewisham. Being an old King's man he had known as a student the Nursing Sisters of St. John the Divine, and when in 1883 this community established the Lewisham Hospital he renewed his friendship with them, and rendered them great assistance, remaining their staunch friend to the end of his life. He was also divisional surgeon to the police and district surgeon to the post office. His kind and genial disposition rendered him popular both with his patients and his fellow-practitioners. He was generally known as Mr. Pickwick, from an absurd likeness to that eminent character as delineated in the well-known illustrations. He took a great interest in rare and difficult cases, and was in the habit of trying all the new remedies that he read about. He rarely prescribed according to the Pharmacopœia. He was a great lover of dogs and horses. He took a house at Bexhill, and lived there a good deal during his later years. He had already been himself for some months in failing health when the death of his wife, under somewhat painful circumstances, seemed to give him a great shock, and to deprive him of all self-control. He died soon after her, rather suddenly, at the age of fifty or thereabouts, on August 19th, 1897. He had been a Fellow of our Society for seventeen years.

John Scott

had been a Fellow of the Society since 1870. He was born at Annan, in Dumfriesshire, in 1831, and at the time of his death on November 2nd, 1897, had been in practice at Sandwich, in Kent, for thirty-three years. His work lay

chiefly amongst the poorer classes, by whom he was held in great repute. He had at one time a very large practice, and was to the end exceedingly popular.

Henry Wm. Freeman

was a man of strong individuality, and was widely known. In medical circles he was almost invariably alluded to as Freeman of Bath, and not without reason, for no man had more thoroughly identified himself with the interests of the town in which he practised, or had laboured harder to restore to Bath something of its old attractiveness, prestige, and popularity.

Born at Westward Ho, in Devonshire, in the year 1842, he received his education at the Bideford Grammar School, and afterwards entered as a medical student at the Middlesex Hospital, where he took several prizes, and held more than one resident appointment. He became qualified in 1864, and in the same year was appointed resident medical officer to the Royal United Hospital, Bath. He soon afterwards commenced practice in Bath, and at length, in 1881, was appointed one of the honorary surgeons to the hospital. In 1882 he received the diploma of Fellow of the Royal College of Surgeons of Ireland. When the new Queen's Baths were opened by the Duchess of Albany in 1888, Mr. Freeman, who was made Mayor of Bath that year, presented a beautiful statue, representing "The Angel at the Pool." This has been placed over the fountain in the pump-room. Mr. Freeman was very fond of horses, and was the owner of an extensive thoroughbred stud at Weston. For some time his health had been failing, but his fatal illness dated from or soon after the opening of the new pump-room in October. He died at his residence in Bath, November 28th, 1897, at the age of fifty-five years. He had been a Fellow of this Society since 1867, and was a member of its Council from 1891 to 1893.

Our list of honorary Fellows has never been a long one. It contained at the time of the last annual meeting only eleven names, and that number has now been reduced to eight, owing to the deaths of Dr. Lusk, of New York, Dr. Braxton Hicks, of this city, and Professor Tarnier, of Paris, of each of whom it now becomes my duty to give a more or less detailed account.

William Thompson Lusk

was born in Demerara, British Guiana, on May 23rd, 1838. Most of his early life was passed in Norwich, Connecticut, whither his family removed. In 1855 he entered as a freshman at Yale University, but left college on the completion of his first year. For three years he studied medicine at Heidelberg and at Berlin. In 1861, while still a medical student, the outbreak of the War of the Rebellion fired him with military ardour, and he enlisted as a private in a regiment of New York volunteers. Within two years he rose to the rank of lieutenant. Shortly afterwards he was made a captain, and finally was appointed assistant adjutant-general. As a soldier he is said to have been distinguished by his coolness and his valour. In 1864, after a service of three years in the Federal army, he took his degree in medicine from the Bellevue Hospital Medical College in New York. After his graduation he again visited Europe for further study, and spent the years between 1864 and 1868 in the hospitals of Edinburgh, Paris, Prague, and Vienna. On his return to the United States he was appointed professor of physiology in the Long Island College Hospital, and continued to occupy that chair until 1871. During the last year of that professorship he was also lecturer on physiology in the Harvard Medical School. In 1871 he became professor of obstetrics, diseases of women, diseases of infants, and clinical midwifery in the Bellevue Hospital Medical College. This chair he continued to hold to the time of his death. In 1890 he succeeded the late

Dr. Isaac E. Taylor as president of the College. He was consulting surgeon to the Maternity Hospital, the Skin and Cancer Hospital, and the New York Foundling Asylum. He was one of the founders of the American Gynecological Society, and was its president on the occasion of its meeting in Washington in 1894. He was also at one time president of the New York State Medical Association, and of the New York Obstetrical Society.

As a teacher he is said to have had few equals, especially in the art and science of obstetrics, of which he was indeed a master.

For two years and a half (July, 1871, to December, 1873) he was editor of the 'New York Medical Journal.' It was the publication in 1881 of his excellent text-book, 'The Science and Art of Midwifery,' that first brought his name prominently before the profession of this country. That work at once established the author's fame not only in his own country and this, but in all the countries of Europe. It quickly passed through a number of editions, and was translated into French, Italian, and Spanish. It was the best exposition of the obstetric science and practice of the day that had yet appeared. It was eminently readable without being too diffuse, displayed an intimate acquaintance with the literature of obstetrics, and was enriched with copious and valuable references. It was studiously moderate and conservative in its general tone. The rules of treatment it laid down were sound, avoiding on the one hand too great an eagerness to interfere, and on the other too absolute a reliance on the unassisted powers of nature. The chapters on puerperal fever were at the time the best in the language, and contained an account of the most recent researches on the subject, with a thoroughly scientific discussion of the nature of the disease, its pathological anatomy, its clinical manifestations, its causes, and its treatment. Several of the foremost teachers of midwifery in this country at once adopted Dr. Lusk's treatise, and recommended it to their pupils as their text-book. Dr. Lusk's contributions

to the Transactions of the societies and the current medical literature were marked by the scientific spirit and sobriety of judgment that characterised his book. Though he never attained as a gynæcologist to the same eminence that he had achieved as an obstetrician, his judicious teaching did much to check the tendency to indiscriminate operating which at one time was in danger of discrediting operative gynæcology. He welcomed progress, but with a distinct leaning towards a wholesome conservatism.

"He was a man," writes Dr. Polk, "of singularly pure character. His unselfishness naturally brought about him many friends . . . and the attitude of the profession of New York and of America toward him was that of confidence and esteem." He possessed a diffident, unassuming, and yet fascinating manner, and in the midst of his busy life and grave responsibilities always found time to be courteous to strangers and genial in the company of his friends. He retained his youthful figure and appearance in a most remarkable degree. Endowed with "an abounding vitality" and a spare build, he seemed the unlikelist person in the world to be struck down prematurely by an attack of apoplexy. Though still to all appearance in perfect health, he had betrayed for some months an increasing nervousness and irritability of manner that had given warning to his more intimate friends of failing powers. And so when the end came, on June 12th, 1897, it was perhaps less of a surprise to them than it was to the public. But to all it was a severe shock to learn that the melodious voice of this useful and gifted man had been heard for the last time. Dr. Lusk died in the fifty-ninth year of his age. His eldest son, Dr. William Chittenden Lusk, though still quite young, is chief of the surgical clinic at the Bellevue Medical School.

John Braxton Hicks.

In endeavouring to give an adequate account of the life and work of Dr. Braxton Hicks in the short time at my disposal, I feel I have before me a difficult task. He was one of the founders, and for many years one of the most active supporters of our Society, a past President, a recently elected Honorary Fellow, and a contributor of no fewer than forty papers to its 'Transactions;' on these grounds alone it would be fitting that the annual address should contain as full an account as possible of his personality and his career. But when it is also remembered that the science and art of obstetric medicine owe to him several of the most important advances of recent years, and that his name has taken a permanent place amongst those of the most distinguished British obstetricians, there is still more abundant reason why our records should contain a more than usually full appreciation of the man himself as well as of the work of his life.

John Braxton Hicks was born at Rye, in Sussex, in the year 1823. He was the second son of Mr. Edward Hicks, of Lymington, who was at one time a banker, and for many years held the position of chairman of the bench of county magistrates. From the age of twelve to fifteen Braxton Hicks was educated as a private pupil of the Rev. J. O. Zillwood, of Compton Rectory, near Winchester. He became apprenticed to a medical practitioner in the town where he lived in 1842, and at the age of eighteen he entered as a medical student at Guy's Hospital. He was a favourite both amongst his teachers and his fellow-students. "I shall never forget," writes an old fellow-student, Dr. Daniel Hooper, "his amiable, cheerful expression, bright, piercing eyes and noble forehead; his alacrity was remarkable; he was always busy—I never saw him idle for one moment—he would hurry

with a very quick step to the lecture theatre, literally run down the steps (a huge volume of Pereira, perhaps, under his arm) to the bottom bench, and there sit motionless and attentive till the lecture was over." He took first prizes in anatomy, materia medica, practical chemistry and botany, and he also won a medal for double sculling given by the hospital boat club. He was very fond of botany, and in the summer vacation collected specimens from the New Forest. In 1844 he passed the first examination for the degree of Bachelor of Medicine at the London University, taking honours in every subject, and carrying off the exhibition and gold medal in materia medica. In 1847 he passed the final M.B. examination, obtaining honours in physiology and comparative anatomy, medicine, and surgery. He soon afterwards received the diplomas of the Royal College of Surgeons and the Apothecaries' Society, and in 1851 took the degree of M.D. at his university. Wishing to marry and to settle in practice, he entered into partnership with the late Mr. W. Moon, of Tottenham, and became a highly respected general practitioner. But in 1859 he was invited by his old hospital to accept the post of assistant obstetric physician, whereupon he relinquished general practice and came to reside in the Borough.

In the same year he passed the examination for the membership of the Royal College of Physicians, of which he was elected a Fellow in 1866.

In 1870 he was appointed senior obstetric physician to Guy's Hospital, and lecturer on obstetrics at the school. These appointments he continued to hold until 1883, when he was elected consulting obstetric physician. Feeling that the age limit at his own hospital had cut short his career as a teacher somewhat prematurely, he acceded in 1888 to a request to become obstetric physician to St. Mary's Hospital in succession to the late Dr. Meadows, the then assistant obstetric physician being considered at the time a little too young for the full responsibility of the senior post.

This appointment Dr. Hicks held for several years, doing his hospital work conscientiously and taking a share of the systematic teaching in the school. But he never forgot that he was a Guy's man, and that his early successes and interests were connected with that hospital. He was for several years examiner in obstetric medicine at the University of London, and held a similar position at the Royal College of Physicians from 1872 to 1878, and again from 1889 to 1893. For many years Dr. Braxton Hicks was physician to the Royal Maternity Charity, and he was also for a time physician to the Royal Hospital for Women and Children in Waterloo Road.

Dr. Braxton Hicks was all his life a devoted student of natural science, and many contributions from his pen appear in the 'Proceedings of the Royal Society,' in the 'Transactions of the Linnean Society,' and in the 'Journal of Microscopical Science.' On the 5th of June, 1862, he was elected a Fellow of the Royal Society. I have been favoured by the clerk of that Society with a copy of his nomination paper, which I here reproduce not only on account of the interest attaching to the names of his proposers, but as showing the precise grounds on which that great distinction was conferred upon him. He is described as residing at No. 6, Wellington Street, London Bridge, and as being the author of the following scientific papers:

"On Certain Sensory Organs in Insects hitherto undescribed," read before the Royal Society, and published in abstract in the 'Proceedings' May 26th, 1859.

"On New Organs of the Antennæ of Insects," and "On Organs on Nervures of Wings," two papers in the 'Transactions of the Linnean Society.'

"On New Organs on the Halteres of Diptera," in the 'Proceedings of the Linnean Society.'

"On a New Species of Draparnaldia" and "On Amœboid Conditions of *Volvox globator*," 'Microscop. Journ.,' April, 1860.

"On the Development of the Gonidia of Lichens in

Relation to Unicellular Algæ," 'Microscop. Journ.,' Oct., 1860.

"New Sensory Organs in Insects," in the 'Linnean Society's Transactions,' 1860.

"On the Homologies of the Eye and its Parts in Invertebrata," read before the Royal Society, January, 1861.

He is lastly spoken of as part author of a little work published by Van Voorst, and entitled 'Humble Creatures [the Earth worm and House-fly].'

The following names of Fellows of the Society are attached to the document:—W. B. Carpenter, J. Lubbock, G. Busk, E. Lankester, F. Currey, J. J. Bennett, J. Hilton, A. S. Taylor, T. Bell, C. Ansell, and E. W. Brayley.

It will thus be seen that it was mainly his contributions to entomology and botany that obtained for him the coveted blue ribbon of science. His interest in these studies continued to the end of his life, and many other papers relating to them appeared from time to time in the journals and transactions to which they were specially appropriate. To us, however, his work in connection with our own Society and the science of obstetrics must necessarily have the chief interest, and of this I must now speak. He was one of the founders of the Obstetrical Society of London, and took an active interest in it from the first. He twice served on the Council, namely, in 1861 and 1862, and again in 1869. He held the office of Hon. Secretary from 1863 to 1865, was Vice-President from 1866 to 1868, became Treasurer in 1870, occupied the presidential chair during the years 1871 and 1872, and was elected an Honorary Fellow in 1896. To the 'Transactions' of the Society he contributed, as I have already said, no fewer than forty papers. He was a close and accurate clinical observer, and many of his papers which record single cases or groups of cases are models of what such contributions should be. To these I shall not have time further to refer; their titles will be found in the bibliography appended to this address. But

of some of his more important papers I must speak a little more at length.

In the month of July, 1860, there appeared a paper in the 'Lancet' on "A New Method of Version in Abnormal Labour," in which were described "five cases of placenta prævia in illustration of its peculiar applicability to that formidable complication of labour." In the same journal for February 9th, 1861, cases were given of other forms of labour to which the new method had been successfully applied. It was by these papers that Dr. Braxton Hicks first brought before the profession his now celebrated method of version by combined external and internal manipulation. He chose that mode of communicating the method to the profession, in preference to laying it at once before a society, because he considered that the subject was too new for its merits to be then discussed with satisfactory results. When, however, he had had more experience of the method, and had tested and proved its value, he made it the subject of a paper which was read before this Society in November, 1863. In the following year the paper reappeared in a revised form as a thin octavo volume of 72 pages, published by Longmans and Co., with the title "On Combined External and Internal Version." Up to within a very few years of this period the operation of turning, whether the object was to bring down the head, breech, knee, or foot, had involved the introduction of the whole hand into the uterus. Cephalic version was very seldom adopted on account of the difficulty of grasping the head and retaining it at the os uteri; whilst in regard to the other forms of version, foot-turning had almost entirely taken the place of the older method of breech-turning. All these methods, however, required the introduction of the whole hand, and generally part of the arm, within the uterus, a process which added materially to the painfulness and difficulty of the case, not to mention the valuable time often lost whilst waiting until the os and cervix had become sufficiently dilated for the operation to be per-

formed. In a few cases men like Collins, of Dublin, and Dr. Robert Lee, of St. George's, had occasionally shortened this period of delay by pushing the child round with the finger, but the practice was only now and then successful. Dr. Robert Lee had also pointed out that in some cases of transverse presentation it was unnecessary to pass more than two fingers into the os uteri in order to seize the knee, a plan which he named "two-finger turning." Meanwhile several German observers had demonstrated the possibility of turning the child *in utero* from the outside. Braxton Hicks showed how, by the combination of these two methods, each acting upon opposite ends of the fœtus, there was obtainable a certainty and a celerity of which neither plan was capable when employed alone.

In the discussion which followed Dr. Hicks's paper at this Society, Dr. Robert Barnes stated that an admirable memoir, in which the principle of turning by external and internal manipulations was fully described, had been published by Wigand in 1807. Not having any knowledge of Wigand's paper, Dr. Hicks was unable at the time to call this statement in question, but before the paper and discussion were printed he acquainted himself with the precise purport of Wigand's essay, and embodied the result in an appendix. He bore generous testimony to the value of Wigand's suggestions, but he showed that they were by no means identical with his own. Wigand had discovered that pressure upon the exterior would make the fœtus move to a considerable extent, and that by pressing on both poles of the child in opposite directions, he could bring that end which was nearest into the os uteri, but he only employed the inner hand to guide and receive the head or breech into the os. The difference is important, for while, by his method, Wigand was merely able to rectify abnormal presentations, the adoption of Hicks's plan enabled the operator to accomplish version in any manner, whether partial or complete, podalic or cephalic. Wigand never contem-

plated complete version, and he expressly mentioned that his method was not applicable to cases of hæmorrhage, or of prolapse of the funis, or of convulsions; in other words, the most important cases requiring version could not be treated by the method he suggested. The plan described by Hicks, on the contrary, combined the power of rectifying abnormal presentations with that of performing complete version. It differed from all previous methods in enabling the operator to produce cephalic or podalic version at will, and in being capable of application as soon as the os uteri was sufficiently dilated to admit one or two fingers. The advantages thus gained are obvious. It permits early intervention in such cases as neck, shoulder, and transverse presentations; it furnishes a new and safe resource in cases of convulsions in which the introduction of the hand is attended with much risk, and in which speedy delivery is desirable; it diminishes the dangers of turning in those cases of contracted pelvis in which turning is the most appropriate treatment; and it removes from the operation the risk of producing fatal shock when it is necessary to turn the child under circumstances of extreme depression on the part of the mother. But it is especially in the treatment of placenta prævia that it has proved of the greatest service, both in saving life and in diminishing professional anxiety. When, summoned to a case of severe hæmorrhage from this cause, the medical attendant found the cervix only sufficiently expanded to admit one or two fingers, he had hitherto been compelled to wait for hours whilst endeavouring to dilate the os, or to content himself with plugging the vagina and endeavouring to press the head on to the placenta by exerting pressure on the fundus uteri. "Anything," to use Dr. Hicks's own forcible words, "which gave the practitioner some power of action was to be earnestly welcomed; anything better than to stand with folded arms, incapable of rendering assistance for hours and even days, every moment of which might be carrying the sinking and suffering patient

nearer to the grave." By the new method, not only would bleeding be arrested, but time could be saved to an extent of which the value can scarcely be over-estimated. As soon as the os uteri would admit two fingers, version could be performed and the os effectually plugged by drawing through it the foot and leg, and exerting such gentle traction as the mere weight of the operator's arm, in retaining hold of the limb, is sufficient to supply. Henceforth the case could be watched with as little anxiety as an ordinary case of breech presentation. Rapid extraction is not only unnecessary, but, as favouring post-partum hæmorrhage, extremely dangerous. Dr. Hicks was very emphatic on this point. "What is the use," he says, "of hastily delivering before the os is well dilated and before the system has time to rally from the effects of flooding and of the version? Many of the deaths following placenta prævia may, I believe, be fairly attributed to too rapid delivery. How much must the collapse be increased and the uterus injured by endeavouring to drag the head through the yet rigid os! Turn, and if you employ the child as a plug, the danger is over. Then wait for the pains, rally the powers in the interval, and let nature, gently assisted, complete the delivery."

Dr. Hicks had to wait many years before he had the satisfaction of finding his suggestions adopted. In spite of his fecundity as a writer, the advertising instinct was wanting in him. Had it been otherwise, he would have been long ago recognised by all the obstetricians of the civilised world as one of the greatest benefactors of lying-in women that this age has produced. When, after the lapse of time, obstetricians did awake to the value of his work, the mortality from placenta prævia at once fell from 30 per cent. to something near 5 per cent.

In the year 1867 Dr. Braxton Hicks made a still more valuable contribution to the literature of obstetrics; I refer to his paper "On the Condition of the Uterus in Obstructed Labour," probably one of the most admirable communications that has ever appeared in our 'Transac-

tions.' The greatest confusion and ambiguity had hitherto existed as to the precise meaning of the terms "cessation of the pains," "powerless labour," and "exhaustion," and the interpretation and significance of the train of symptoms which these terms were used to denote.

There were but two British writers on obstetrics who, up to that time, appear to have observed the real condition of the patient in obstructed labour, viz. Dr. Murphy and Dr. Rigby. These authors had noticed that, when any obstacle prevents the exit of the fœtus, the pains after being suspended for a time returned with a totally different character; they became short and extremely severe, and never entirely passed off in the intervals. These writers had further noticed that if the hand was placed on the abdomen the uterus was felt to be as hard and contracted during an interval as during a pain, and so sensitive that the patient could scarcely bear to be touched. In other words, they had observed that a state of continuous action was substituted for the rhythmical pains. This condition they attributed to inflammation consequent upon the injury done to the soft parts. Dr. Hicks was the first to appreciate the importance of this observation, but he did not accept Murphy and Rigby's explanation. He pointed out that even in a normal labour the demand made on the nervous force by the action of the uterus, the largest involuntary muscle in the body, is so enormous that, if it were not for the replenishing that takes place during the intervals, the constitutional effects would be disastrous. He showed that, if from any cause the length of the ordinary intermissions was curtailed, the powers of the system would soon undergo a serious drain; and that, if matters went further and uterine action became continuous, symptoms of dangerous exhaustion would inevitably supervene. In short, he showed the state of tonic contraction of the uterus and the constitutional phenomena that accompany it to be the result of nervous exhaustion, the true source of danger in all cases of obstructed labour.

He went on to show that there are two distinct classes of cases in which the pains, having once been vigorous, cease to be rhythmical or apparently subside, and that it is of the utmost importance to distinguish between these classes in order to be guided to the proper treatment. "The first and simplest form," he says, "is well known, and is that in which the uterus is simply quiescent, resting passively for a time while the nervous power is being, so to speak, collected; after a time the uterus begins to act, and the labour is accomplished. In this case there is no rise in the pulse; generally, on the contrary, it is weak and feeble; nor are there any untoward symptoms but languor and some faintness. The reflex function is deficient, and its action sluggish, and therefore the demand on the constitution to supply nerve force is proportionately small." Here we have the first clear description of what Scanzoni called, and is now known as, *secondary inertia* of the uterus. "The second form of subsidence of the pains is . . . of the opposite character. The uterus becomes gradually irritated, so that, although some of the pains still occur at irregular intervals, the uterus is really in more action than before, tightly compressing the child, falling into the inequalities of its form, whereby the fœtus is prevented from escaping, every indentation of the uterus forming as it were a ledge past which it is difficult to draw the child, or to pass the hand if we desire to turn. When this condition . . . has once been fairly established it is rare that the rhythmical pains ever recur with such force as to expel the fœtus; as a rule the continuous action remains, and sooner or later symptoms set in telling one of the necessity for interference." What a graphic picture of tonic contraction of the uterus from obstructed labour! It is to Braxton Hicks that we are indebted for a simple and yet certain means whereby to distinguish between these two classes of cases. In the one we find on placing the hand upon the uterus that the uterine walls are lax and flabby, the fœtus being readily felt "within it floating about with

ease." So long as this condition lasts we need feel no anxiety, and there is no occasion for manipulative interference. In the other class we find the uterus continuously hard and firm, and tightly moulded to the form of the fœtus, which, contrary to what is found in the former class, cannot be moved about, the whole mass, consisting of the uterus and its contents, being more or less fixed. Under such circumstances we may feel sure that it is worse than useless to postpone assistance. It is impossible to over-estimate the importance of this teaching. There was another matter of equal importance to which Hicks in this paper was the first to call attention, viz. the risk of hæmorrhage from want of response on the part of the uterus if the labour be unduly hastened and the child extracted while the uterine walls are relaxed; that is, when the case is simply one of secondary inertia. On the other hand, where there is continuous action extraction is the proper and only safe treatment.

I am glad to know that this invaluable paper is likely soon to be reprinted, along with some other of Braxton Hicks's contributions to obstetrics, by the New Sydenham Society. The lessons it enforces have long since become part of our common stock of knowlege, but it is well to be reminded that we owe them to the exceptional powers of observation of a Fellow of our own Society. I had intended had time permitted to give a *résumé* of some other of Braxton Hicks's papers, especially those on the rhythmical contractions of the uterus during pregnancy, to which he was the first to call attention.

In looking through the list of his obstetrical and gynæcological contributions one feels that there must be few subjects on which he has not written something. There are papers on the anatomy of the human placenta, on the behaviour of the pregnant uterus in chorea, on pregnancy associated with ovarian disease, on the induction of premature labour, on face presentation, on hydatidiform degeneration of the chorion, on transfusion, on rupture of the vagina in labour, on rupture of the uterus, on inver-

sion of the uterus, on concealed accidental hæmorrhage, on the cephalotribe (his modification of which instrument became the one almost exclusively employed in this country), on Cæsarean section, on extra-uterine and intra-mural gestation, on the temperature during parturition and in the puerperal state, on puerperal diseases, on eclampsia, on labour obstructed by abnormal conditions of the fœtus, on prolapsed funis, on labour with twins, on the best mode of delivering the fœtal head after perforation, on acephalous monsters, and on an outbreak of diphtheria in the obstetric wards. Turning to gynæcological subjects we find him writing on retention of menses, on uterine polypi, on proliferous cysts of the ovary, on sloughing fibroid of the uterus, on the treatment of malignant disease, on tension of the abdomen, and many other subjects. His series of lectures on some of the diseases of the female urethra and bladder, published in the 'Lancet' in 1867, still remains the best systematic account of these diseases in our language. He was not a finished writer or an effective speaker. His papers have no charm of style. His sentences are often ill-arranged; his meaning is occasionally obscure. But his papers are always worth reading; for he was a clinical observer of the first rank, and he never wrote merely for the sake of writing. Sure of his ground, and therefore free from hesitation in his statements of *fact*, he was studiously guarded in his expressions of *opinion*, suggestive rather than dogmatic. In some of his essays, and notably in that on obstructed labour, he showed great originality, and that wide grasp of his subject that enables a man to harmonise apparently discordant phenomena, and to construct out of chaotic materials an orderly presentation of facts and a workable hypothesis in explanation of them. If I were asked which of his contributions I consider to deserve the highest place, I should select the two of which I have endeavoured to give a synopsis this evening, namely, those on obstructed labour and on combined version, and I should add for a third the series of papers

on the rhythmical contractions of the uterus during pregnancy. These were all characterised by a rare originality, and are contributions to obstetric knowledge of which the value is likely to be permanent.

It was difficult for those who only knew Braxton Hicks in his later years to realise that this mild-mannered, chatty, beaming little old gentleman was the man whose name was associated with so many advances in the science and art of obstetrics. He was in no sense one of those who either look or talk like a leader of men. But his wide interests, his keen love of nature, and his gentle unassuming manner made him a most interesting companion. He continually displayed a quite unexpected acquaintance with the most out-of-the-way subjects, and his mind was a storehouse of general information. He had read much, and observed much, and thought much. He was a good draughtsman, and drew accurately on stone from the microscope. He was a large collector of Wedgwood and oriental china, and had in his house typical examples of different makers. He was fond of architecture, and indeed of art generally. He was a deeply religious man, and a sincere member of the Church of England. He was always ready to give help to those who needed it, whether in the form of advice or money, or, if necessary, of both; but it was all done so quietly that few knew him for the charitable man he really was. His character had the charm of simplicity. Utterly free himself from all that was base and sordid, he judged others to be the same; hence he never expressed himself unkindly of his fellow men. He died at his residence, the Brackens, Lymington, August 28th, 1897, at the age of seventy-four, from heart failure after a long illness following an attack of influenza. He had retired from the active practice of his profession about three years previously, and had gone back to the home of his childhood, where he settled down to the quiet enjoyment of his garden and his books, and the peaceful pleasures of a country life, and where his friends had vainly hoped for

him "a long and mellow eventide that the night should linger to disturb."

Étienne Stéphane Tarnier

was born at Aiserey, a village near Dijon, on April 29th, 1828. His father, a modest country doctor, soon afterwards removed to Arc-sur-Tille, where Tarnier spent his childhood, and where, as a student in later years, he loved to occupy himself during his holidays in assisting his father in his practice. He received his earlier education in the schools of Dijon, and at the age of twenty proceeded to Paris to study medicine. Almost at the outset his studies were for a time interrupted, owing to a severe outbreak of cholera in his native district, during which he went to assist his father. Returning to Paris he resumed his course of medical instruction, and in 1856, having determined to equip himself for practice by a year's residence at the Maternité, he entered as an *interne* at that hospital. Gradually, under the influence of Delpech and Danyau, he became attracted to the science of obstetrics, and devoted himself energetically to its pursuit. He commenced his special studies with an inquiry, conducted in association with Vulpian, into the changes that the liver undergoes during pregnancy, and he followed this up by a series of communications to the Société Anatomique on metastatic abscesses in the kidney in puerperal septicæmia, &c. But a much larger question soon absorbed him. At that time the mortality from puerperal fever in the Paris hospitals was frightful. Nothing was known as to its true nature, and the only means then available of checking an epidemic was to close the hospital doors. Between the 1st of April and the 10th of May, 1856, when the Maternité was closed, of 347 women delivered no fewer than 64 died, rather more than one out of every six. It is true that Ignatius Semmelweis had already made his great discovery of the part played in puerperal infection by putrid material carried on the

hands of students and teachers coming direct to the lying-in wards from the post-mortem and the surgical dressing room, and of the marvellous diminution in the puerperal mortality that followed a systematic disinfection of the hands, by the use of chloride of lime, before making a vaginal examination. But all the world knows how virulently Semmelweis's views were opposed even in Vienna, where his discovery was made, and beyond Vienna they were almost unnoticed, and for all practical purposes were unknown. (It should be mentioned in this connection that Semmelweis's views were first brought before the notice of the profession in this country by Dr. C. H. F. Routh, a pupil of Semmelweis, in a paper read before the Royal Medical and Chirurgical Society in 1848; see 'Med.-Chir. Trans.,' vol. xxxii, p. 27.) The surgeons of the Paris Maternité were in despair, and there is a legend to the effect that one of them, meeting on the Boulevard Port Royal a poor woman on her way to the hospital, cried out to her, "Do not come in here unless you wish to die." Tarnier felt a burning desire to solve the problem, and he soon became convinced that puerperal fever was spread by contagion. It was necessary, however, that he should prove it. With this object he made inquiries, and he ascertained that whilst the mortality from puerperal fever in the Maternité during 1856 was 1 in 19, the mortality in the district immediately surrounding the hospital was only 1 in 382; in other words, the mortality in the hospital was seventeen times greater than in the district outside. He came to the inevitable conclusion that the comparative isolation of the women delivered in their own homes ensured their safety by limiting the chances of contamination. To us, at this day, it is difficult to conceive a condition of things in which such a seemingly self-evident proposition could be regarded as startling and dangerous. But when Tarnier came to formulate his views in his inaugural thesis, and otherwise to submit them to the criticism of the obstetrical leaders of Paris, so far from convincing them he met with deter-

mined opposition. Meanwhile his tenure of office at the hospital came to an end, and he had to decide how he was to earn a living. He determined to remain in Paris. Taking rooms in a house in the Rue de Rivoli, he became physician to the Bureau de Bienfaisance, and endeavoured to make a livelihood without drawing upon the meagre resources of his parents. He met with so little success that he was on the point of relinquishing a medical career, when an event occurred which changed the aspect of affairs. A discussion on the nature of puerperal fever took place at the Académie de Médecine, which extended over four months of the year 1858. The thesis of Tarnier was constantly quoted. Dubois became interested, and promised Tarnier that he would instal him as *chef de clinique;* whereupon Tarnier set to work with renewed ardour, and wrote a fresh monograph on puerperal fever as observed at the Maternité. This was published at the end of 1858. When he presented himself to the publisher with his manuscript, Mons. J. B. Baillière, glancing from the title to his unknown visitor, exclaimed, "I know only one man, sir, in Paris, who is competent to deal with such a subject." "Who is that?" "Dr. Tarnier." "I am Dr. Tarnier." Already, therefore, he was recognised as an authority on the subject.

In 1861 Tarnier became *chef de clinique* to Dubois, in fulfilment of the promise the latter had made to him three years previously, and in 1867 he succeeded Trélat as chief surgeon and director of the Maternité. This position he continued to hold for twenty-two years, with ever-increasing devotion to the interests of that great institution and to the well-being of its inmates. From what has already been said it will be readily understood that the researches of Pasteur and Lister had a special fascination for Tarnier as opening a prospect of new and trusty weapons wherewith to fight against puerperal infection. With what success he introduced antiseptic midwifery into the Maternité is probably well known to most of my hearers, but the story, which Tarnier himself

was never tired of telling, will well bear to be repeated, and I think ought to be repeated here. He was in the habit of dividing into three periods the interval between the year 1858 and the year 1889, when he quitted his post in order to succeed Pajot in the chair of theoretical teaching. The first period embraced the years 1858 to 1869; the second, 1870 to 1880; and the third, 1881 to 1889.

In 1867, when he entered the Maternité in the capacity of Surgeon-in-Chief, no changes had been made in the method of conducting the work of the hospital since the time when he was *interne*, and in spite of his protests things remained as they were up to 1870. This he called the period of *inaction*. In the hope of promoting disinfection the walls were from time to time washed over with lime, and each ward was left unoccupied for a few days now and then in order that the windows might be opened and the air of the apartment thoroughly renewed. But these were the only measures adopted until, in 1870, the hospital was reorganised by the authorities in accordance with Tarnier's recommendations. The healthy lying-in women were for the first time kept apart from the sick. The moment that a patient exhibited the slightest sign of illness, she was removed to the infirmary. In order to render the separation as complete as possible, Tarnier never visited the infirmary, and the medical officer in charge of the infirmary never entered Tarnier's wards. Each department had its own resident staff, and no officer or attendant was allowed to pass from the one department to the other. The transport of infectious germs was thus reduced to a minimum. From 1858 to 1869 the mean mortality had been 9·31 per cent.; that was during the period of inaction. Immediately after the adoption of measures of isolation the mortality fell to 2·32 per cent. This Tarnier called the period of *struggle against contagion*. With 1881 commenced the third period—that of *antisepsis*. The mortality then fell still lower, viz. to 1·05 per cent.

Mortality in the Paris Maternité.

		Per cent.	Proportion.
1858—1869	Period of inaction	9·31	1 in 10¾
1870—1880	„ hygienic measures	2·32	1 in 43
1881—1889	„ antisepsis	1·05	1 in 95

The measures for ensuring isolation continued to be carried out, and the marvellous diminution that followed the introduction of antiseptics showed what could be accomplished when isolation and antisepsis were combined.

In order to convey the full significance of these figures, I have reproduced a diagram of Tarnier's, in which are

represented three columns, accurately corresponding in height to the proportion which the figures just quoted

bear to each other. The tallest represents the mortality during the period of *inaction;* the middle one that during the period of *isolation;* and the shortest that during the *antiseptic* period.

I should say that these figures represent the *total* mortality of the hospital, not the deaths from puerperal fever. It was Tarnier's rule to include in his statistics every death that took place, from whatever cause. He believed that any scheme by which an endeavour is made to show separately the deaths which could reasonably be attributed to infection caught within the hospital, was too full of temptations to self-deception ever to be safe from error. Even in the extreme case of a woman who jumped out of the window in an attack of mania almost the moment she entered the hospital, the death was included in the statistics of the year. It was the same with all deaths from hæmorrhage, eclampsia, rupture of the uterus, and the rest. He desired that his statistics should be unassailable.

But I must continue my narrative. During the years that he was at the Maternité, in addition to this great work of slaying the dragon of puerperal infection, a work on which I have intentionally dwelt at some length (for I regard it as by far his most important achievement), Tarnier found the time and energy to invent or modify various obstetric instruments and methods of treatment.

In an admirable obituary notice of the late Dr. Alex. Keiller, of Edinburgh, Dr. Watt Black, one of my predecessors in this chair, discussed the vexed question of priority in regard to the invention of dilatable bags for expanding the os uteri, and concluded that the merit of that invention undoubtedly belonged to Dr. Keiller, who introduced his bags to the notice of the profession in 1859. So far as Great Britain is concerned, that conclusion was correct, but there is evidence to show that Tarnier had invented a similar contrivance seven years earlier. His dilating ball, still in every-day use in French obstetric practice, was described by him in 1852. There is no reason to suppose

that Keiller knew of it. It is probably another instance of an idea occurring independently to more than one mind; and even if it should hereafter be shown that some other inventive genius had anticipated Tarnier, it need not prevent us from crediting him with an original idea, any more than his priority detracts from the originality of Keiller.

It is, however, with the invention of the axis traction forceps that Tarnier's name is most frequently associated. For many years "there had been a steadily growing conviction in the minds of many obstetricians that the long double-curved forceps was not an altogether satisfactory instrument. The addition of the pelvic curve had ensured the more equable distribution of the grasp of the blades over the fœtal head, and so had removed one of the great objections to the straight forceps, but it had not altered the direction of the tractile force. Let the handles of the instrument be carried as far back as the perinæum can be stretched, the direction of the traction can still never correspond with the axis of the pelvic inlet. This axis, along which the mass of the fœtal head must enter the brim, is coincident with a line drawn between the umbilicus and the coccyx. If traction could be made in this line there would be no misdirection of the force, it would all be available for the purpose aimed at; but exactly in proportion as the line of traction diverges from the axis of the genital canal, so some of the force is expended in driving the head of the child against the anterior wall of that canal, and is therefore not simply wasted, but acts to the detriment of the maternal tissues. With the ordinary forceps it is anatomically impossible for traction to be made directly in the pelvic axis, so that a certain amount of the force expended is ineffective. From the year 1860 forwards several attempts were made to remedy this defect,"* but none proved satisfactory until Tarnier, in the year 1877, brought out his axis traction forceps, an

* From a paper on "The Axis Traction Forceps," by the author. 'Lancet,' December 10th, 1892.

instrument which though not by any means faultless, admirably fulfilled most of the requirements. I need not describe it, for its essential features are familiar to you all. The traction-rods permitted traction to be made in the axis of the pelvis, and so ensured that all the force expended by the operator was exerted usefully, and that the maternal tissues were not exposed to any unnecessary pressure. This advantage Tarnier's instrument shared with some of its predecessors—Hubert's, Aveling's, and some others—but there were other advantages that no other forceps possessed. These were (1) that the application handles move forward as the head descends in such a way as to furnish a constant guide to the direction in which traction should be made, in order that it may be exercised with most effect, *i. e.* the direction proper to the plane of the pelvis through which the head is passing; and (2) that the transverse handle enables the operator to keep up a steady pull with a minimum of muscular fatigue, and therefore with the power of estimating with some approach to accuracy the amount of force he is expending.

The instrument, as first introduced, was unnecessarily complicated and unwieldy. Critics saw and made much of its faults, and overlooked its merits. Yet the former were for the most part accidental and removeable (Tarnier himself corrected many of them), whilst the latter were unmistakable and permanent. "Let who will," says Prof. Alex. Simpson, "continue to use ordinary curved forceps; an obstetrician who has used the Tarnier forceps in a few test cases, will no more think of reverting to the other than a man who can afford to keep a carriage will continue to practise as a peripatetic. He may use the defective instrument occasionally to keep muscle and mind in exercise, or because the case is so easy that it can be finished with anything, as he may walk to some patient's house for the sake of his own health, or because she lives in the same street; but in the general run of his work, and in all his difficult cases, the axis traction forceps becomes

for him a valued necessity."* I have elsewhere recorded my own conviction that the axis traction forceps constitutes "the most important improvement that has been made in the construction of the instrument since the introduction of the pelvic curve," and that its general adoption, in principle at least, in this as in other countries is merely a question of time.

In the year 1883 Tarnier brought out another obstetric instrument—the basiotribe. He had already modified the saw forceps of Van Huevel, and had improved the cephalotribe. The basiotribe was entirely original. It was devised for the purpose of breaking up the base of the skull, so as permit the extraction of the fœtal head after perforation, in those difficult cases in which the necessary reduction in size cannot be easily effected either by the cephalotribe or the cranioclast. It is said (by M. Paul Bar) to combine the strength of the former of these instruments with the firmness of grasp of the latter, and to be now, since certain modifications were made in it, an almost perfect instrument.

Tarnier's name is also associated with improvements in embryotomy instruments and in the artificial incubator. The idea that in 1880 found expression in his "couveuse" was not new. Other somewhat similar methods of keeping up the temperature of prematurely born children were already employed, but to Tarnier is due the credit of having introduced a convenient application of the principle into the Maternité, and popularised its use throughout France.

When, at the beginning of the academic year 1888–9, Tarnier left the Maternité to succeed Pajot at the Clinique des Accouchements, his activities by no means ceased. He gave admirable courses of clinical lectures, many of which were published. One course in particular was afterwards amplified and published in book form by his pupil Potocki. I refer to the remarkable series of lec-

* "Again on Axis Traction Forceps," 'Edin. Med. Journ.,' October, 1883.

tures delivered in the summer of 1890 on "Asepsis and Antisepsis of Obstetrics," and published in 1894 as a large octavo book of upwards of 800 pages, certainly the most complete and masterly treatise on the subject that has yet been written.

Tarnier had many honours showered upon him. He was a Commander of the Legion of Honour. In both the Académie de Médecine and the Société de Chirurgie he had passed the presidential chair. The Société Obstétricale de France, of which he was one of the founders, made him its first president. But what gave him most satisfaction was the feeling that it was owing to his influence that new maternities had been opened, new refuges established for pregnant women, and new asylums for women who had been recently delivered. The public authorities marked their appreciation of his influence and work by deciding that the hospital in which he carried on his teaching during his later years should henceforth be known under the name of the "*Clinique Tarnier.*"

In his capacity as professor his manner was restrained, calm, and dignified. He arranged his materials admirably, and laboured above all things to be clear and exact. He treated the work of others with respect, and if he had occasion to differ from them in opinion he expressed himself without acrimony, and in terms of studied moderation. He wrote several articles in the 'Nouveau Dictionnaire de Médecine et de Chirurgie pratiques,' and edited several editions of 'Cazeaux's Midwifery,' adding such copious notes as to transform the original treatise into a new book.

He was engaged up to the last in revising the proofs of the third volume of his own monumental 'Traité de l'art des accouchements.' In the preparation of that work he associated with himself several of his former pupils—Chantreuil, Budin, Paul Bar, Bonnaire, Maygrier, and Tissier; but, throughout, the inspiration came from him, and the book remained essentially his own.

He died, after a short illness, on the 23rd of November,

1897. "With him," as was truly remarked by M. Budin in his funeral oration, "there disappeared one of the greatest medical figures of our epoch." Through his influence France has probably made greater obstetric progress during the past quarter of a century, than any other country in the world.

And now, gentlemen, to use the words of our old favourite, Oliver Wendell Holmes, "my show of ghosts is over." It only remains for me to apologise for keeping you so long, and to thank you for the patience with which you have listened to me.

Mr. Alban Doran, in proposing a vote of thanks to the President, said that he was glad that attention had been turned in the Annual Address to the value of the specimens exhibited. The Fellows wished yet to know what kind of small fibroid was likely to grow and require early hysterectomy, and what kind was likely to remain stationary and require no operation; they also wished to be perfectly sure that there was such a disease as deciduoma malignum. A patient study of specimens, such as the President encouraged, could alone solve such questions. The President had wisely shown how the greatest specialists have the best general training. All the four great deceased authorities whose lives he had related had been something more than that for which they were famed. Tarnier understood sanitation from the first, Lusk had been a soldier, and Sir Spencer Wells through army surgery learnt how to do abdominal operations on women, and succeeded as a specialist in those operations. He and his followers taught the general surgeon, who before had been frightened of the peritoneum. Lastly, Braxton Hicks had played three parts very distinct in character, —the pure scientist, the general practitioner, and the specialist. All these great men were the better for their versatility and varied experiences, and the President was well advised in holding them up as an example in this respect. Mr. Doran moved—"That the thanks of the

meeting be given to Dr. Cullingworth for his most interesting address, and that he be requested to allow it to be printed in the next volume of the 'Transactions.'"

This was seconded by Dr. Pollock, and carried by acclamation.

The President announced that the Officers and Council shown on the printed list as recommended by the Council were duly elected.

President.—Charles James Cullingworth, M.D.

Vice-Presidents.—William Duncan, M.D.; John H. Galton, M.D.; William Radford Dakin, M.D.; Jamieson Boyd Hurry, M.A., M.D. (Reading).

Treasurer.—James Watt Black, M.D.

Chairman of the Board for the Examination of Midwives.—Percy Boulton, M.D.

Honorary Secretaries.—John Phillips, M.A., M.D.; Herbert R. Spencer, M.D.

Honorary Librarian.—Amand Routh, M.D.

Other Members of Council.—A. H. Freeland Barbour, M.D. (Edinburgh); John Walters, M.B. (Reigate); Joseph Thompson (Nottingham); George Francis Blacker, M.D.; Arthur Nicholson, M.B. (Brighton); Richard Pinhorn, (Dover); Thomas Watts Eden, M.D.; John Dysart McCaw, M.D.; Frederick John McCann, M.B., C.M.; William Gandy; George Henry Pedler; Augustus W. Addinsell, M.B., C.M.; John Ford Anderson, M.D.; Arthur Edward Giles, M.D.; Angus Fraser, M.D. (Aberdeen); Harold H. Des Vœux, M.D.: Charles Hubert Roberts, M.D.; George Ernest Herman, M.B.

It was moved by Dr. Hayes, seconded by Dr. Boxall, and carried—"That the thanks of the meeting be given to the retiring Vice-President, Dr. Nesham, and to the other retiring members of Council, Dr. Adams, Mr. Kisch, Dr. Amand Routh, Dr. Handfield Jones, Dr. Rivers Pollock, Dr. Kanthack, and Dr. Tate."

It was moved by Dr. POTTER, seconded by Dr. HANDFIELD-JONES, and carried—"That the best thanks of the meeting be given to the retiring Hon. Secretary, Dr. Dakin, and the retiring Hon. Librarian, Dr. Griffith, for their valuable services to the Society during their respective terms of office."

BIBLIOGRAPHICAL APPENDIX TO ANNUAL ADDRESS.

PREPARED BY C. J. CULLINGWORTH, M.D.

Part I.

List of Sir Thomas Spencer Wells's Published Writings, arranged Chronologically.

1. The scale of medicines with which merchant vessels are to be furnished, by command of the Privy Council for Trade, ... with observations on the means of preserving the health and increasing the comforts of seamen; directions for the use of the Medicines and for the treatment of various accidents and diseases. 16mo, London, 1851.

2. The cure of squinting by the use of prismatic spectacles, 'Med. Times and Gaz.,' vol. ii, 1853, p. 216.

3. On a new ophthalmoscope, ibid., pp. 264-5.

4. Navy Medical Reports, ibid.
   (1) On an epidemic of variola at Corfu in 1852, pp. 32-4.
   (2) On the treatment of ulcers by galvanism, pp. 84-6.
   (3) On the relative prevalence of phthisis at Malta among seamen, the land forces, and natives, pp. 133-4.
   (4) Extracts from a report on the ventilation of ships, p. 547.

5. Lecture on cases observed among the out-patients at the Samaritan Hospital, ibid., 1854, pp. 459-61.

6. Practical essays on plastic surgery, ibid., pp. 9-10, 32-3, 55-6, 109-10, 210-12, 262-3, 661-2.

7. Drawings of the appearance of the surface of the heart in two cases of purpura, 'Trans. Path. Soc.,' vol. v, 1853-4, p. 115.

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Part II.

List of Dr. J. Braxton Hicks's Published Writings, arranged Chronologically.

I. Medical Papers, &c., with Subject-Index.
II. Scientific (Non-medical) Papers, &c.

I. Medical Papers, &c.

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MARCH 2ND, 1898.

C. J. CULLINGWORTH, M.D., President, in the Chair.

Present—42 Fellows and 4 visitors.

Books were presented by Professor von Winckel, Professor Kleinwächter, Dr. Herman, Sir H. W. Acland, Dr. Wilson, the Clinical Society, and the New York Academy of Medicine.

Henry Menzies, M.B.Cantab., was admitted a Fellow of the Society.

Alfred Walker, M.A., M.D. (Wimbledon), and Thomas Cullen, M.B. (Baltimore), were declared admitted.

The following gentlemen were elected Fellows of the Society :—Percy Leonard Blaber, L.R.C.P.Lond. ; Charles Edwin Purslow, M.D.Lond. ; Arthur James Sturmer, Surgeon-Lieutenant-Colonel, I.M.S. ; and Claude Wilson, M.D.Edin.

CASE OF DECIDUOMA MALIGNUM.

Shown by J. H. TARGETT, for Dr. HELLIER.

E. P—, married, aged 39, 7-para, residing in Leeds in the manufacturing portion of the city, and practically at the bottom of the Aire valley, was admitted into the

Hospital for Women at Leeds under my care on June 1st, 1897. She seems to have enjoyed good health up to the time of her last confinement, which took place on January 20th, 1897. Her previous labours had been normal. On the 19th December, 1896, she had slipped and broken her right leg. This kept her in bed up to the time of confinement, but the bone united well and the general health was not impaired.

Labour seems to have been neither difficult nor abnormal. The placenta came away in ten minutes; there was some considerable loss of blood post partum. She remained in bed for three weeks, and had each day a good deal of coloured discharge. The discharge seems to have continued more or less up to admission on June 1st. It was usually red in colour, but was sometimes dark brown, and in the middle of May it became extremely offensive; also she was now confined to bed again. She had very little pain, and none on defæcation. Two weeks before admission she began to have a bad cough, and she felt very ill.

On admission (June 1st).—Obviously very ill, sallow, anæmic, but not emaciated. Temp. 99°; pulse 82, feeble but regular; respirations 28. She was expectorating brownish mucus tinged with blood. There was a loud systolic bruit heard at the left base of the heart, and considered to be hæmic. There were crepitant râles heard over the bases of the lungs with dulness, most marked on the left side. Urine sp. gr. 1018, no albumen and no pus. The abdomen presented no irregularity of outline, the walls contained a good layer of fat, they were not distended, and there was very little tenderness. Liver dulness not increased; resonance normal except just above pubes, where the enlarged uterus reached halfway from symphysis to umbilicus.

On vaginal examination the enlarged uterus was felt bimanually, the cervix occupying a normal position. The os was patulous, the fornices free. The finger readily passed into the cervix, but no new growth could be reached;

examination caused no pain, but the finger was withdrawn covered with reddish-brown, highly offensive discharge. It seemed probable that the case was one of retained placental tissue with septic infection, but the possibility of the presence of malignant disease was also considered.

On June 6th the patient was placed under ether in the lithotomy position. The uterus was considerably enlarged, reaching halfway to the umbilicus. The os admitted the finger without other dilatation, the cervix being held with vulsellum. Soft granular material could be felt in the uterus, and this material was removed by a large scoop. It came away piecemeal, was dark red, soft, and offensive, and looked like placental débris. There was a fair amount of hæmorrhage. The uterus was washed out with carbolic lotion and packed with iodoform gauze. She was alarmingly prostrate in the after part of the day.

7th.—Pulse very feeble, respiration rapid, temperature not above 100·4°. Extension of mischief in lungs, prognosis very bad. Uterus douched daily with iodine lotion; iodoform vaginal suppositories.

It may be sufficient to summarise the after history by saying that she lived four days longer. The discharge from the uterus was highly offensive. There was pneumonic consolidation in both bases, especially the left; the sputum was thin and slightly viscid, and contained dark brown, highly offensive masses. The pulse grew exceedingly feeble, the respirations rapid and shallow. She had rigors on the 7th and 10th. The temperature was never found above 101° except after the first rigor, when it reached 101·6°. There was no great abdominal tenderness, pain, or distension. She died on June 11th, twenty weeks after the confinement. At no time after admission could the possibility of a radical operation be entertained.

The post-mortem was made by my house surgeon, Mr. C. B. Pierson. On account of an obstetric case I felt obliged to be absent.

Post-mortem.—On opening the abdomen the uterus was found to be much enlarged, and the seat of new growth,

which involved the appendages, welding them into a large mass on the left posterior aspect of the uterus. The rectum also was involved here.

The transverse colon, omentum, last part of the ileum, and the appendix vermiformis were all firmly adherent to the upper part of the uterus, and could be separated only with the greatest difficulty. Immediately above the transverse colon was a mass surrounded by small intestines, which appeared to consist of a secondary deposit with pus and débris. The pouch of Douglas contained about one ounce of turbid yellow fluid. The liver was large and exceedingly friable. The capsule was quite smooth. On section the liver presented a nutmeg appearance. The spleen was exceedingly soft, the kidneys were pale, with capsules adherent in some places. In the stomach and other abdominal viscera no pathological changes were noticed. The uterus, appendages, and rectum were removed *en masse* for further examination.

The lungs were removed with the greatest difficulty, owing to very firm pleuritic adhesions, which corresponded to nodules of deposit in the lungs. Along the anterior margin of the right lung, and scattered in irregular manner through the left, were found nodules, reddish brown in colour, round or oval in shape, and measuring a quarter to one and a half inches in diameter ; one of these was removed for microscopic examination.

There was pneumonic consolidation of the lower two thirds of the left lung, and some similar change in the right base. The bronchial glands were enlarged, hard, and black. One nodule of new growth invaded the pericardium and caused a patch of dulness upon its inner surface. The pericardium contained two drachms of fluid. The heart was pale pink in colour ; the walls were thin, and the seat of fatty degeneration. A well-marked striation could be seen almost over the whole inner surface of the left ventricle. A portion of heart muscle was found on microscopic examination to show marked fatty degeneration.

On examining the pelvic organs the uterus was found to measure 4½ inches in length. The cavity of the fundus was lined by a mass of new growth, which at certain parts could be separated from the uterine wall, but elsewhere was firmly blended with it.

The growth was soft, greyish brown, ulcerated and sloughy upon the surface, and highly offensive. It invaded the posterior uterine wall, perforating this. On the left and posterior aspect of the fundus uteri was a large mass consisting of a deposit of the neoplasm, to which the rectum was adherent. Within the mass was a cavity irregularly ulcerated, and communicating with the interior of the uterus through a fistulous opening in the left lateral wall. At the upper part the cavity also communicated by a small aperture with the sigmoid. The right ovary was infiltrated with new growth.

I am indebted to Mr. Targett, of the Clinical Research Association, for the following report upon the parts removed.

Report on Dr. Hellier's Specimen.

The specimen consists of the uterus and its appendages with the adjacent portion of the sigmoid colon. The uterus has been laid open anteriorly. It measures nearly 5 inches in extreme length, and the cavity is 4½ inches long, of which 2 inches may be apportioned to the canal of the cervix uteri. In the posterior and left lateral walls of the cavity near the fundus uteri there is a large oval aperture, measuring 1½ inches in its chief diameter. The margins of this aperture are surrounded by a new growth, which projects above the level of the mucous surface of the uterus in the form of a raised, nodular, everted edge. The aperture leads into a large cavity behind and to the left of the uterus. This cavity is situated between the layers of the left broad ligament, the Fallopian tube, ovary, and round ligament of which are stretched over it. On the back of this cavity is seen an adherent coil of sigmoid flexure and the mesosigmoid; externally it must

have been in contact with the pelvic wall, and internally it is adherent to the whole length of the body of the uterus. The dimensions of this cavity are 4 inches from side to side, 3 inches from above downwards, and 2 inches from before backwards. The interior is partially filled with new growth and blood-clot, the former being directly continuous with that which is in the wall of the uterus.

The right Fallopian tube and mesosalpinx are normal, but in the situation of the right ovary there is a secondary mass of growth which is somewhat globular in shape, and measures 2 inches in diameter. The greater part of this mass is situated between the layers of the right broad ligament, but it has extended through the hilum into the substance of the ovary, the outline of which can be recognised on the upper surface of the tumour. A narrow strip of apparently normal broad ligament exists between the right side of the uterus and the tumour itself. The pouch of Douglas proper is not encroached upon, but the space behind the body of the uterus is much diminished by the adhesions of the sigmoid flexure and the size of the tumour in the right broad ligament.

After hardening, the specimen was further dissected, and the following details may be added to the above description :—The extension of the new growth to the left of the uterus is undoubtedly between the layers of the left broad ligament, the left ovary being displaced upwards, flattened out, and invaded through its hilum as on the opposite side. The cavity formed here by the breaking down of the growth not only communicates with the uterus, but by a small fistula with the sigmoid colon, and by a ragged aperture in the mesosigmoid with the general peritoneal cavity.

Microscopical examination.—In structure this growth corresponds so closely with those already recorded in the 'Transactions' of this Society, that it will be unnecessary to describe it in detail. Sections of it are largely composed of blood-clot, laminated fibrin, inflammatory cells, and necrotic tissue. Where it invades the uterine wall the

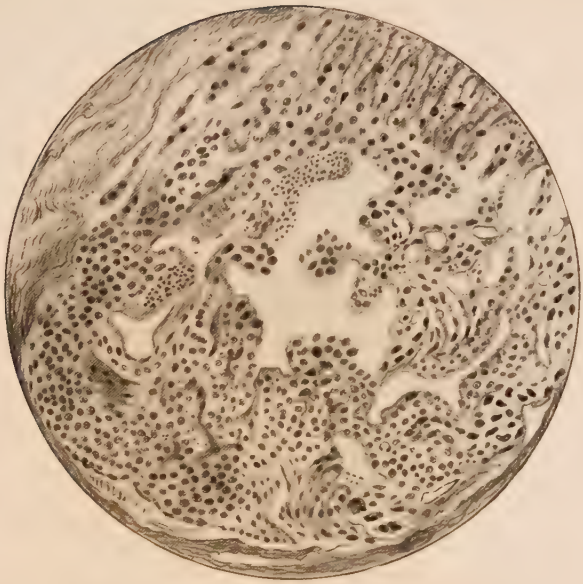

FIG. 1.—SECTION OF EDGE OF UTERINE GROWTH.

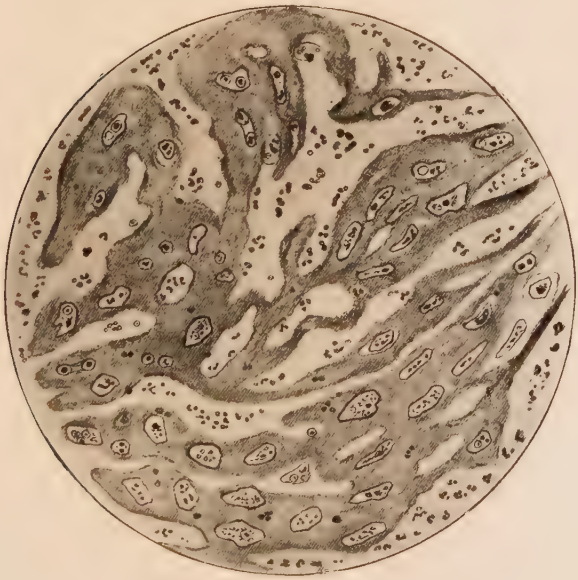

FIG. 2.—SECTION OF GROWTH IN OVARY.

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growth consists of two classes of cells, the one polyhedral in shape with large round vesicular nuclei, the other plasmodia or large irregular masses of granular material containing many nuclei, and often vacuolated. The uterine tissue in advance of the growth is infiltrated with small, round, inflammatory cells. The secondary growths in the right ovary and lung, though very necrotic, resembled that of the uterus. In spite of the obscurity of its ætiology, the histological features of deciduoma malignum are so peculiar that the growth may be easily recognised under the microscope, and may justly claim a distinctive title.

J. H. Targett.

Dr. Eden said that Mr. Targett had very kindly given him an opportunity some time ago of examining the microscopic specimens from this case, and he quite agreed with him that the growth was of the same nature as those described under the name of deciduoma malignum by Continental writers. At the same time he saw no reason to depart from the view he had previously advanced, that these tumours did not differ in any essential particular from rapidly growing sarcoma occurring in other parts of the body than the uterus.

DOUBLE MONSTER OF DICEPHALOUS TYPE.

Shown by Dr. Owen Fowler.

DERMOID TUMOUR OF BOTH OVARIES, WITH VERY LONG OVARIAN LIGAMENT ON THE LEFT SIDE.

By Dr. Rivers Pollock.

Mrs. K—, aged 48, had three pregnancies and three children; the youngest was born in 1882.

Mrs. K— was first seen on December 14th, 1897, when

well-marked carcinoma of the cervix uteri implicating the surrounding parts was found. The patient was not seen for some weeks, when, not being so well, she was anxious to return to the hospital, and drove from Richmond for readmission, but died within two hours of uræmia and asthenia.

Post-mortem.—In both ovaries there was a dermoid tumour; the left ovary was lying over the right in the right iliac fossa, and was fixed there by a piece of omentum, which was again fixed deep down to the ileum. The left ovarian ligament was much stretched, being 6½ inches long. The pelvis of both kidneys and both ureters were dilated, the disease implicating the bladder where the ureters run within its walls. This had much impeded the flow of urine, which for the past four or five days had been very scanty.

A CASE OF DOUBLE PYOSALPINX IN WHICH THE TUBES WERE ENORMOUSLY DISTENDED.

By C. Hubert Roberts, M.D., F.R.C.S.

The following are the notes of a case of double pyosalpinx which is somewhat remarkable, owing to the extreme size to which the tubes were distended.

The case occurred at the Samaritan Hospital under the care of Mr. Meredith, who kindly allows me to publish the notes of the case.

R. T—, 33 years old, married twelve and a half years; no children, no miscarriages.

History of present condition.—"Inflammation of the bowels" at twenty-one. Seven years ago had a fall from a chair on her back, which caused much general bruising and shock. When she began to get about again she noticed for the first time severe pain in the right iliac region; for this she was examined by a doctor, who told her there was something wrong with the womb. A pessary was inserted, but it caused so much pain that she discontinued it at the end of three months. After this she went to the country and rested, and in about twelve months was well again.

Four years ago she had an attack of pelvic inflammation with recurrence of the pain on the right side; the attack lasted two to three weeks. She did not notice any purulent discharge up to April, 1897. She was fairly well when she again had an attack of "inflammation," and great pain in the same region (*i. e.* the right side).

In July, 1897, another attack, and at the same time a right inguinal hernia appeared. As neither the pain nor

the hernia improved, she came to the Samaritan Hospital under the care of Mr. A. C. Butler-Smythe as out-patient in September, 1897. She improved somewhat, but finally he advised her admission as an in-patient, and she came in under Mr. Meredith on December 15th, 1897. The case was then regarded as one of chronic inflammation of the appendages, but at the time the tubes were not markedly enlarged, though they were very fixed, and examination caused her much pain. There was some discharge of muco-pus, but nothing in her history pointing markedly to gonorrhœal or septic infection beyond the sterility (twelve and a half years).

The patient stated on admission that she had lost flesh lately, but that she had never noticed any lump or swelling in the abdomen beyond the hernia.

She complained of painful and frequent micturition for some weeks past, but has had no trouble with defæcation.

Since the original onset of her trouble, seven years ago, her periods have been painful, and have recurred too frequently; before this time she had been quite regular.

Condition on admission (December 17th, 1897).—Rather pale, fairly well nourished; tongue coated and indented; bowels very constipated; appetite fair; suffers much with indigestion and flatulence. Pulse 84, volume fair; nothing abnormal in chest; temp. 98·8°.

Family history.—Consumption in two maternal uncles and one aunt; one brother is phthisical; patient had scarlet fever at eighteen. She states that she had inflammation of the bowels when she was twenty-one, *i. e.* shortly after marriage, but that she was at work up to seven years ago.*

On examination a double or bilobed tumour extends upwards from the pelvis to a point about three fingers' breadth above the symphysis, and laterally 2½ inches to the right and 2 inches to the left of the middle line. Percussion over the tumour is dull except at the upper and lateral borders, where it is overlapped by intestine.

* I shall refer to this attack again later.

Per vaginam.—The cervix lies to the left of the middle line, and behind this are apparently two more or less distinct swellings lying behind the uterus in Douglas's pouch, and which are identical with the swellings or swelling felt.

On abdominal examination the mass on the left is very closely connected with the back of the uterus, and the uterus rises with the swelling when this is moved. To the right of this, at the top of the right vaginal fornix, is another rounded and larger mass, which is evidently somewhat elastic, and part of the swelling felt above the symphysis, and which is about the size of a small orange; it moves independently of the left-sided tumour, against which it lies in close proximity, and which is much smaller. It is difficult to say on pelvic examination if the two swellings are quite distinct, but they are elastic. The uterus lies apparently in the centre of the mass which is felt above the symphysis, but it is not enlarged. The sound passes 2½ inches; the mass to the right lies in front of the uterus, above the brim.

Bimanual examination confirms the opinion that the two bodies in Douglas's pouch are identical with those in the abdomen. The masses, from their shape, suggest enlarged tubes; they are very fixed.

Rectal examination also confirms the above.

Urine contains a very faint cloud of albumen; otherwise it is normal.

Since her admission into the hospital her condition has not improved, though for nearly a fortnight after her admission the pelvic condition remained unchanged and her temperature normal, *i. e.* up to January 14th, 1898.

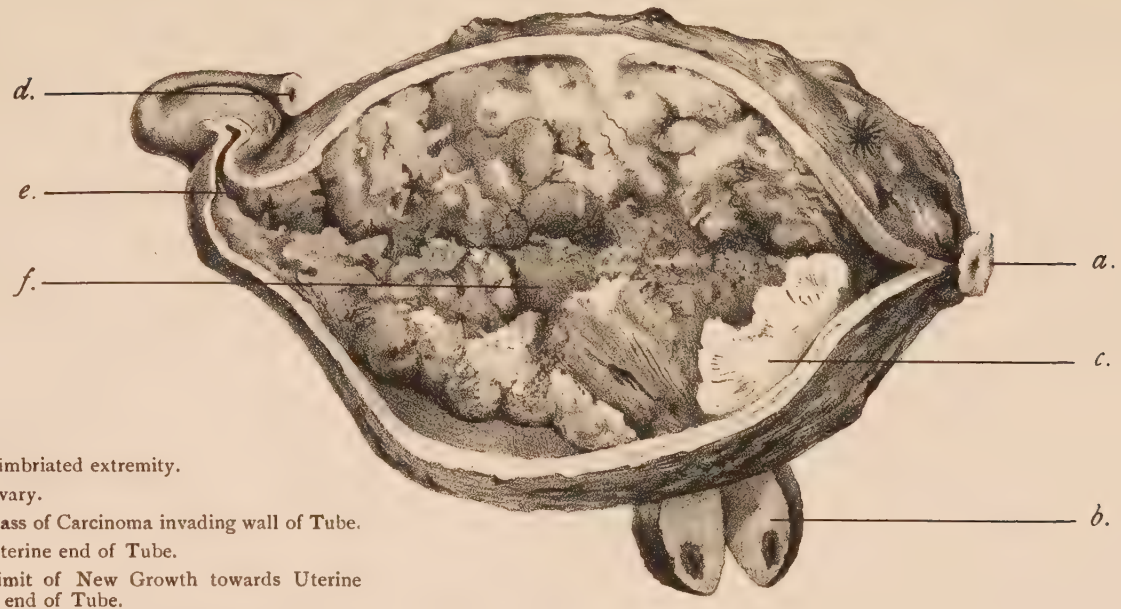
On January 15th patient complained of feeling very ill and faint, and a period which had come on suddenly ceased; it was at first thought this was due to a bath which she had taken, but she became worse, and her temperature rose to 101·8°, with severe abdominal pain. On the 16th her temperature was 102·2°, dropping in the morning and rising at night, and of the hectic type.

Simultaneously with this a remarkable change took place in the abdominal swelling, which up to the present time had only reached about 3 inches above the symphysis; it was found to have rapidly and enormously increased, and on the 21st of January had reached the navel, the swelling being most marked on the right side. On January 21st her temperature was 103°, and she was evidently much worse, and in considerable pain at times. The question now arose as to the condition, whether the mass was an inflamed fibroid, or peritonitis around diseased tubes. During the next few days patient was better, but her temperature kept up and down, varying between 101° and 103°, and of a hectic type. On January 27th the abdominal mass reached one inch above the navel on the right side, and was very tense and tender, and the whole abdomen more distended. There was a reddish discharge *per vaginam.*

Operation was decided on, and performed on January 28th by Mr. Meredith. Time, 2.15—3.40 p.m. I had the pleasure of assisting. Anæsthetic, chloroform. Antiseptic, phenol.

Details of operation.—On opening the abdomen the omentum was found adherent to a tumour, and to the parietes low down in front. This was carefully separated and pushed up, when the subjacent mass could be recognised as a greatly distended tube, the enlarged succulent fimbriæ being seen at its outer extremity. It was next carefully turned up into the abdominal incision and lifted out on to the abdominal wall without rupture, when its great size was evident. It was attached to the right side of the uterus. This connection was secured by transfixion with silk in two loops, and followed by a final outside loop before division. No leakage of any material was seen. The right ovary, unenlarged, was closely adherent to the posterior surface of the broad ligament below the place where the ligatures were placed. It was left undisturbed. The left tube, also converted into a very large tumour, was next discovered buried in Douglas's

PRIMARY CARCINOMA OF FALLOPIAN TUBE.



(*a.*) Fimbriated extremity.
(*b.*) Ovary.
(*c.*) Mass of Carcinoma invading wall of Tube.
(*d.*) Uterine end of Tube.
(*e.*) Limit of New Growth towards Uterine end of Tube.
(*f.*) Masses of New Growth filling and distending the Tube.

Bale, Sons & Danielsson, Ltd., Lith.

pouch beneath adherent intestine, and was further closely but not firmly fixed there by recent adhesions. With care, and after much trouble, it was also brought up unruptured; the pedicle was ligatured, and it was removed together with its ovary. There was tolerably free oozing from the pelvic adhesions, so the abdomen was washed out with sterilised water and closed, leaving the abdomen full of water.

There was very little shock, and the patient has made an uninterrupted recovery. Her temperature fell the same evening to 99°, and on the 30th January it was normal, and remained so afterwards.

Pathology.—The two tumours removed were the enormously dilated Fallopian tubes. I also show two drawings exact size from nature, drawn the same evening, which give an idea of the shape and size of the dilated tubes; also photographs. They exhibit the usual features of dilated tubes, but are of unusual size. They both contained pus.

The right tube, which is much the larger of the two, has the following dimensions:—length, 6½ inches; breadth, 3¼ inches; girth, 10¾ inches at greatest circumference; weight, 28 oz.; measurement along its outside margin, 14¼ inches.

The left tube:—length, 5 inches; breadth, 3 inches; girth, 9½ inches; weight, 13½ oz.; outside margin, 11 inches.

The right tube exhibits in a very marked way the great hypertrophy of the fimbriated extremity, and, when fresh, these fimbriæ were a brilliant scarlet colour. The closure of this extremity is, therefore, of the salpingitic variety as described by Mr. Doran. The ovarian fimbria is well seen (see Diagram I) on the under surface, and the large extent and breadth of the pedicle is also very marked. The uterine end of the tube is quite normal, though the wall of the tube itself very near to it is greatly thickened. The enlargement of the vessels of the tube and their circular distribution are indicated in the drawing.

The left tube, though not so greatly distended, exhibits much the same characters; the fimbriated extremity is very much hypertrophied, but it is closed in the same salpingitic way as the right. The ovary in this case is seen very close to the spot where the ligature was applied, and it was removed with the tube.

The specimens have been mounted for me by Dr. Morley Fletcher, the Curator of St. Bartholomew's Hospital Museum, and are preserved in formalin and glycerine.

Dr. F. W. Andrewes, our pathologist at St. Bartholomew's, has also very carefully examined the pus from both tubes, and he reports that it contains neither tubercle bacilli nor gonococci, although many slides were searched. There were cocci in plenty, but they stained well by Gram's method,—even those that were intercellular, which of course gonococci do not. Dr. Andrewes made cultures, but they were all sterile, therefore such cocci were probably dead. It is of course possible that the original infection may have been of a blennorrhagic type, as the primordial gonococci may have perished.

The photographs were made for me by the St. Bartholomew's Photographic Society.

Remarks.—The case is of interest chiefly on account of the very great distension of the Fallopian tubes, showing to what a great size they may grow without rupture, a thing which is supposed by some commonly to take place with a fatal event. This case appears to contradict such theories, though one spot on the left tube was very thin. It is remarkable, too, how very great must be the hypertrophy of the walls of the tube; and although both contained pus, and were acutely inflamed, how such inflammation was limited to the tubes, and how comparatively slight was the surrounding peritonitis, which only showed itself by recent adhesions. Personally I believe that fatal rupture into the general peritoneal cavity in such cases is extremely rare, and that if rupture take place it is into some adjacent viscus, such as bowel, bladder, or vagina.

The specimens were both removed unruptured, a great point in such cases, as fouling of the peritoneum is thus avoided; although, as was shown by the bacteriological examination, the pus was sterile.

One point in such cases of great interest must be the cause; you have heard already the results of the microscopical and bacteriological investigations, and though the pus was reported free from gonococci I do not think that such infection is out of the question in this case; and the history rather points to it, viz. an attack of "inflammation of the bowels" when she was twenty-one, *i. e.* three to four months after marriage, then a life of sterility, then a series of attacks of pelvic inflammation culminating in a final severe suppuration of both tubes. Nor do I think that the absence of gonococci from the pus of these large pyosalpinges necessarily disproves such infection; of course I am open to admit that the infection, though septic, may have been of a simpler or different type. Tubercle was considered, but no bacilli have been found; all cultures of the pus that were tried proved also sterile.

The remarkable and sudden increase in the size of the tumours subsequently to her admission, with great increase in the severity of her symptoms, was very noteworthy.

Dr. Roberts thanked Mr. Meredith for allowing him to publish the notes of the case. Dr. Morley Fletcher had kindly mounted the specimens, and Dr. Andrewes had examined the pus bacteriologically.

Mr. Alban Doran noted that a big pyosalpinx with a long history of repeated recurrence of pelvic inflammation could often be removed with permanent benefit. He had operated on several such cases, all bilateral, with the most enduring good results. Yet when the operation was performed during a first attack of inflammation, the obstructed tube being relatively small and the operative manœuvres quite easy, the patient often fared very badly. Abscesses full of infective germs developed around the ligature in the stump, and fresh pelvic inflammation ensued. Hence many Continental operators removed the entire uterus as well as the appendages, so as to take away a long

suppurating tract, which included the still patent uterine end of the tube and the endometrium. This was an extreme measure, and experience showed that a first attack of inflammation of the tubes and ovaries would yield to rest and appropriate medical measures. On the other hand, when inflammation of the tube recurred, as in Dr. Hubert Roberts's case, the pus became sterile, and the uterine end of the tube was usually sealed up; the uterus, too, was often healthy. Hence, provided the uterus was healthy, the patient was restored to permanent good health when the suppurating tube was removed, for no suppurating tract was left behind, and the tissues of the stump were free from infective germs.

Dr. Drummond Robinson had made cultures from the pus in cases of chronic pyosalpinx, and had always found it sterile. The gonococcus was a delicate organism, and after a time it could no longer be cultivated from the pus of a pyosalpinx of gonorrhœal origin. In many cases of gonorrhœal pyosalpinx the gonococcus was the only organism present in the pus, but sometimes streptococci and staphylococci were found associated with it. These latter organisms also perished after a prolonged stay in pus.

Mr. Bland Sutton remarked that this form of tubal disease was very rare; he had examined four specimens previously, one of them (removed by Mr. Butler-Smythe) accompanied his Jacksonian Essay, and is preserved in the museum of the Royal College of Surgeons. He believed that they had a different mode of origin from the common forms of pyosalpinx, and were not secondary to septic changes in the uterus or gonorrhœa. The patients are usually virgins, and, if married, sterile. The tubes are converted into huge banana-like cysts, which not only rise out of the pelvis, but may even reach as high as the navel. The abdominal ostium is occluded, but the fimbriæ are usually obvious. The disease rarely causes inconvenience until the enlargement of the tubes produces marked swelling of the belly. Adhesions are rare, but the tubes generally require to be enucleated from the peritoneal investments formed by the broad ligaments. In describing this kind of tubal trouble in the second edition of his work on 'Diseases of the Ovaries,' p. 214, Mr. Sutton expressed the opinion that the distension probably depended on non-inflammatory (perhaps congenital) stenosis of the abdominal ostia of the tubes.

The President said the specimen was one of unusual interest. The tubes had much more the shape, size, and general appearance usually found in hydrosalpinx than in pyosalpinx. He asked whether in the case of the larger tube the fimbriated end was closed by sealing of the tube itself, or by adhesion of the fimbriæ to adjacent tissues. He would also be glad to learn whether there was any history of acute purulent vaginitis or

other evidence of gonorrhœa. A case somewhat similar in regard to size, shape, and contents had been published a few years ago by Mr. Butler-Smythe. He himself had also published a case resembling that of Dr. Roberts, where the tubes, without having reached so large a size, were nevertheless unusually large, and had precisely similar contents. Mr. Shattock regarded that case as in all probability tubercular in origin, but no bacilli were found on microscopical examination, and the true nature of the case remained obscure. He (the President) agreed with Mr. Doran in his remarks as to the general advisability of abstaining from operative interference during the first acute attack of salpingitis. It was impossible to decide at that stage whether spontaneous recovery would or would not take place. No single indication of the need for surgical measures was of so much value as recurrent attacks of pelvic peritonitis associated with a persistent, fixed, irregular swelling in one or both posterior fossæ of the pelvis. This combination almost invariably pointed to the existence of chronic suppuration in the appendages. Experience seemed to be leading to an approximation in our rules of treatment of inflamed Fallopian tubes to those which guided surgeons in their treatment of cases of diseased appendix vermiformis.

In reply to the President, Dr. Roberts said that the fimbriated extremity *was* certainly closed in both tubes, as the pus was under great tension when the tubes were punctured for examination of the pus by cultivation. Great care *had* been taken to eliminate the question of tubercle, and the history of the case had been taken especially with the view of ascertaining the question of gonorrhœal infection; no further conclusion had been arrived at, but it was most probably a case of this kind.

FIBRO-MYOMA OF VAGINAL WALL (WITH MICROSCOPICAL SLIDE).

Shown by John Phillips, M.A., M.D., F.R.C.P.

The patient from which the growth was removed was aged 49, and single. For three years the swelling had been noticed to be gradually increasing. It was situated in the anterior vaginal wall, and when operated upon extended from the internal opening of the urethra to just above the pelvic brim. The uterus was retroverted and retropronated as well as being pushed up out of the pelvis. The patient complained of increasing bladder irritation, and an offensive discharge for a short time; this was found to be due to retained menstrual fluid in the upper part of the vagina.

The vaginal wall was incised, and the growth enucleated. It weighed 10½ ounces, and the cavity from which it was removed measured 6 inches in length by nearly 4 inches in breadth. The patient made an easy and afebrile recovery.

The microscopic section shows fibrous and plain muscular tissue, the former being in excess. The rarity of this condition was considered a sufficient reason for bringing the specimen forward.

MONSTROSITY RESULTING FROM AMNIOTIC ADHESION TO SKULL.

Shown by John Phillips, M.A., M.D., F.R.C.P. (for Dr. Jäger).

This specimen was shown in the fresh condition; it occurred in the practice of Dr. Harold Jäger. The patient,

a young primipara, when four months pregnant had seen (when seated on the top of an omnibus) a child run over by another omnibus, the head being crushed; the accident affected her very much at the time. Labour was at term and of five hours' duration. The breech presented, there was great excess of liquor amnii, and delivery of the placenta was by expression. The child cried loudly for an hour after birth, and then died.

There is an amniotic adhesion over the frontal bone, and above this there has been no further bone development. An encephalocele and a meningocele are present. Dr. Phillips considered this an instance of a rare condition in which adhesion of the amnion had interfered with development. He asked the President to appoint a committee to dissect the specimen and make a further report.

A sub-committee was appointed consisting of Dr. Hubert Roberts and Dr. John Phillips.

Report of Sub-committee.

The fœtus is of male sex, and is apparently perfect except for the peculiar deformity of the upper part of the cranium, face, and vault.

Length, 12½ inches from buttocks to apex of cranial mass.

The anus is perforate.

Penis and scrotum small; the former is short, curved, and hypospadic.

Testes undescended, but epididymis present on each side.

The chief part of the deformity consists in the attachment of the placenta by its membranes directly in the form of a sac to the top of the fœtal head.

The auricles are normal in appearance and situation, as are the lower jaw and tongue.

In the situation of the normal cranial vault are three swellings, which protrude from the upper part of the calvarium.

1. The largest swelling, springing from the region of the squamous portion of the left half of the occipital bone, is a pear-shaped sac 5½ inches long and 4 inches wide in its broadest portion. It consists entirely of membrane which is continuous with the ordinary scalp, and is not covered with hair. See outline figure (*a*).

On incising it, it is found to contain fluid of a brownish colour, and its base is connected by a large circular aperture with sharp edges admitting three fingers into the cranial cavity, through which brain substance is directly protruding. It is without doubt a meningocele.

2. A smaller swelling springing from the region of the right half of the squamous portion of the occipital bone; it is similar to the swelling (1) above described, but smaller, being the size of a small Tangerine orange. The covering consists (like swelling 1) of skin, uncovered with hair. It has also on opening it a circular sharp-edged aperture admitting one finger, which also is directly continuous with the general cavity of the cranium, through which brain substance is protruding, nearly filling the sac. It is also a meningocele.

3. The third swelling, which occupies the parietal and frontal regions of the skull, is remarkable in having the amnion directly continuous with it, and forming its outer covering extending to the base of the swelling (*b*).

The swelling itself is solid, and not a membranous sac (like swellings 1 and 2). It is the size of an orange, irregularly lobed, and consists of convolutions of brain matter covered by dura mater, with which, apparently all round the base of the swelling, is fused the amnion (*c*).

The swelling is an encephalocele with amniotic adhesions.

The base of the swelling, which is quite sessile, passes almost imperceptibly to be continuous with the skin of the face in the supra-orbital regions of the fœtus on either

OUTLINE KEY OF PLATE III.

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side just at the base of the nose, and is continuous externally with the outer canthus of the left eye, to which it is firmly attached.

Below this the face is also considerably deformed, the whole of the nasal bones and premaxillæ being strangely distorted and pushed forwards; as seen in the photograph, the upper lip is distorted and short, and the nose itself is somewhat oblique.

At the outer angle of the mouth, which is abnormally broad, a sort of furrow extends upwards (*d*), and outwards in the direction of the outer canthus of the eye in the situation of the mandibular cleft of the embryo.

The orbit is much deformed, as is also the eyeball, which is pushed outwards on either side, and stands out of the orbit in a condition of proptosis; the orbito-nasal cleft is evidently imperfectly closed.

The upper eyelids are absent, but the lower is present on either side, but is not in contact with the eyeball.

Covering in the upper portion of the orbit on either side above are the folds of skin, passing upwards to the base of swelling (3).

The same condition exists at the root of the nose, the skin at once passing upward to be continuous with swelling 3 (*i. e.* the encephalocele with amniotic adhesions).

The placenta (*p*) itself is of the usual circular shape, with nearly central attachment of the cord, which is partially velamentous. Its maternal surface is normal ($6 \times 6\frac{1}{2}$ inches). The fœtal surface is normal. The chief peculiarity of the placenta consists in the attachment of the amnion to swelling 3, so that the placental membranes are directly continuous with the fœtal head.

The cord (*k*) itself is excessively short (10 inches). It is only very slightly twisted; on section it shows the usual arrangement of vessels. There is no abnormality until within 3 inches of the placental attachment; here it becomes continuous with a large funnel-shaped protrusion of the amniotic sac, on which the vessels of the cord do not break up except at its extreme base, where they enter

the placenta. No vessels can be seen traversing the surface of this funnel-shaped protrusion of the amnion towards the fœtal swelling 3.

The amniotic cavity is, therefore, directly continuous by a large opening with the coverings of the swelling 3, the amniotic protrusion being merged into the encephalocele, the brain matter within being separated only by its own coverings from the cavity of the amnion itself.

The specimen is evidently one of retarded development of the anterior and upper portions of the fœtal skull by amniotic adhesions. To us the meningoceles appear as the results rather than the direct cause of the abnormality.

John Phillips.
C. Hubert Roberts.

A LARGE SOFT BROAD LIGAMENT FIBRO-MYOMA, WEIGHING FOURTEEN POUNDS.

Shown by Ewen Maclean, M.D.

CYSTIC INTRA-LIGAMENTOUS MYOMA WITH DOUBLE UTERUS.

Shown by W. J. Gow, M.D.

The tumour was removed by abdominal hysterectomy from a single woman aged 32. The right broad ligament is occupied by a tumour which showed extensive cystic changes. On cutting into the mass a quantity of clear yellow fluid exuded. The lower half of the tumour was very soft and sponge-like in texture, and was of a yellowish-brown colour, as if the tissues of the myoma were infiltrated with altered blood. Many spaces of irregular size exist in this part of the tumour. The upper half of the tumour

contained recent bright red blood-clot in an irregular cavity. The appearances suggest that the irregular spaces met with are due to extensive hæmorrhage into the tumour, and throw some light on the origin of cystic degeneration in fibroids.

A uterus normal in shape and size is seen lying in contact with the left side of the tumour, and running obliquely upwards and to the right of this is situated another uterus, larger than the first, and shaped like a spindle. Into the upper and outer angle of this uterus the right Fallopian tube opens, and the round ligament can be traced up to the same point.

This second uterus communicates with the one on the left side at the level of the os internum.

The diagnosis of the case was not clear, and it was at first thought that the tumour was an ovarian or broad ligament cyst. The mass was removed in the ordinary manner after ligation of the ovarian and uterine arteries, and the stump was dropped back into the abdomen. The patient made a good recovery.

Report on Dr. Heywood Smith's Specimen shown March 3rd, 1897 (*not reported*).

The specimens were two pieces of oviduct and one of omentum from the same case.

Suitable portions were removed from each, and after hardening were embedded in celloidin, cut, and stained (hæmateïn and neutral orceïn, and polychromic methylene blue).

All the specimens were in a well-marked carcinomatous condition. The omentum was made up almost entirely of cancer cells, with bands of fibrous stroma between; much of it was in almost the last stage of malignant transformation, and occasionally one could trace the further degeneration into amorphous unstainable material. The oviduct

had evidently been invaded from the exterior, as it was here that the carcinomatous transformation was oldest. It is remarkable that the columnar epithelium lining the tube had not proliferated at all, but that the cancerous process had advanced right up among the mucous folds. The oviducts were probably the last places invaded.

WALTER D. SEVERN.

INTERMENSTRUAL PAIN (MITTELSCHMERZ).

By Augustus W. Addinsell, M.D.

(Received November 3rd, 1897.)

(*Abstract.*)

The author draws attention to a condition of recurring intermenstrual pain which he believes to be more frequent than is generally supposed.

He describes the clinical history of four cases which have occurred in his own practice, and discusses cases quoted by previous authors.

He points out that a marked feature in the great majority of cases is the presence of a clear watery discharge.

He shows that in nearly all the recorded cases a tubal lesion is present, which he believes to be salpingitis proceeding to hydrosalpinx.

He draws attention to the pathological analogy between this condition of tubal colic and appendicular colic of the vermiform appendix.

He endeavours to explain the periodicity of the phenomena by suggesting the existence of a secondary intermediate discharge of nerve energy operating upon diseased tubes in certain individuals.

A table is drawn up of all the hitherto recorded cases.

In the 'British Medical Journal,' Oct. 19th, 1872, there is an account by Sir William Priestley of a paper read before the Royal Medical and Chirurgical Society, entitled "Intermenstrual Dysmenorrhœa," wherein he described a series of cases in which the prominent symptom was pain

occurring at regular intervals between the monthly flow. But although the cases I am about to describe are similar in character, I prefer the title given by the Germans to this disorder, as the term dysmenorrhœa is misleading, in so far as it is generally associated with a flow of blood accompanied by pain. My object to-night is to invite the attention of the Society to a condition which I believe to be not infrequent, but which, as far as I can gather, has received somewhat limited attention, the chief characteristic of which is pain, varying in intensity, referred to the ovarian regions, recurring with marked regularity fourteen days after the normal menstrual period.

The first case is that of Miss G—, aged 29, unmarried. I first saw her in December, 1895. She was a delicate, anæmic-looking woman. She complained of great pain in the hypogastric region, extending over the whole of the lower part of the abdomen. This pain lasted for two or three days. It recurred with perfect regularity on the twelfth to fourteenth day after her normal period, and had increased in intensity for the last four or five years. At the end of the first day it would markedly diminish, and on the second or third day the pain was gone, but she was left with a feeling of weakness and exhaustion. The menstrual period was regular, the amount was profuse, accompanied by clots and shreds, and she suffered from dysmenorrhœa and leucorrhœa. She herself attributed this middle pain to indigestion, and had been treated for that complaint by several physicians. On vaginal examination I found erosions of the os uteri, the uterus anteflexed, and a distinct elongated swelling in the left broad ligament. The left ovary was large and tender; the right was normal. On inquiry I learned that she had been in good health up to five years previously, when she suffered from a severe attack of influenza whilst she was menstruating, which confined her to bed for a fortnight, with sudden arrest of the period, and what she described as "internal inflammation." Since then the periods had

been profuse and painful, and this intermenstrual pain had gradually increased. After consultation with Dr. W. Playfair I decided to dilate and curette her, and did so five days after her period had ceased. The curette removed a considerable quantity of adenomatous growth. A week after the curetting, while still in bed, I was sent for. I found her in great pain, which she described as her usual attack. The next morning the nurse in charge of the case informed me that the patient had passed a considerable quantity of thin watery discharge, after which the pain gradually ceased. On examination I found the swelling in the left broad ligament had disappeared to such an extent that, had I not known of its previous existence, I should have detected nothing abnormal. The next period was much less profuse, and the dysmenorrhœa was improved by the curetting, but the mittelschmerz returned in due course. In May, 1896, I examined her, and found the swelling had again increased in the left broad ligament. She went for six weeks to Schwalbach, where she derived considerable benefit. She went for another course this year, and is now much improved, the pain being less, and some months entirely absent.

The second case is that of a lady aged 31, unmarried, whom I first saw in January, 1896. She was a sister in a religious order, and complained of complete inability to perform her duties in consequence of increasing ill-health, which had been getting steadily worse for the last nine years.

Her period was profuse, lasting eight days, the first two days being accompanied by pain. She passed shreds and clots, constipation was so marked that she was never able to have an evacuation of the bowels without mechanical assistance; but what she complained of most was the fact that no sooner had she got over the effects of her period than she was subject to a severe pain far exceeding that of her period, which recurred always about the fourteenth day, lasting for two or three days, during

which she was completely incapacitated, and had to lie in bed with hot fomentations applied. The constant pain and severe loss was quickly reducing her to a condition of chronic invalidism. She was unable to stand for any length of time, walking was out of the question, and her life, instead of being devoted to usefulness, was spent upon the sofa. On examination I found the uterus acutely retroflexed with several prominent fibroid nodules; the sound passed four and a half inches; the left ovary was prolapsed and enlarged and matted to the side of the uterus; the right ovary was enlarged and tender. She was curetted without any real benefit. Being very anxious to resume her work, I, after consultation with Mr. Bland Sutton, in September, 1896, removed both ovaries and appendages, and performed hysteropexy. Both ovaries had numerous cysts; the right was nearly twice its normal size, the uterus was studded with fibroid nodules, and the left Fallopian tube was much thickened. The patient is now perfectly well, she has had no pain or period since the operation, and she has resumed her life of activity.

The third case is that of Miss D—, aged 28. First seen in December, 1894, she consulted me for recurring attacks of pain in the left ovarian region, which came on twelve or thirteen days after her period, and gradually spread over the lower part of the abdomen, but always started at a point midway between the symphysis pubis and the anterior superior iliac spine. The menstrual flow was normal as to regularity and quantity, and was quite painless. There was a slight leucorrhœa, but she informed me that on several occasions she had passed during these attacks of pain a considerable quantity of clear watery fluid. She had never passed blood on these occasions.

On examination I found the uterus markedly retroflexed and bulky; a sound was not passed; there were two fibroid nodules about the size of a large walnut; the left ovary was tender, and there was a soft elastic swelling

in the left broad ligament; nothing abnormal was detected on the right side. Hot douches were advised, but made very little difference. This patient is the subject of advanced cardiac disease, and is now dying of ulcerative endocarditis. In May, 1895, and in December of the same year, and again in July, 1896, she passed considerable quantities of clear watery fluid during her attacks of middle pain. I saw her quite recently. She has not menstruated for six months, neither has she had an attack of pain.*

The fourth case is that of Miss S—, aged 33. She first consulted me in October, 1897, for recurring pain, so severe as to necessitate her remaining in bed. This pain is always confined to the right side. She was examined three years ago by a gynæcologist for dysmenorrhœa. This she continues to suffer from.

The uterus is anteflexed; there is an increased fulness in the region of the right broad ligament; both ovaries appear normal. For the last nine months this middle pain has increased. It is sometimes accompanied by discharge of clear fluid, never by any coloured discharge. Sometimes it is sharp and acute, and her own words are "it is deep-seated, and goes right through to the back, and is always most severe when I have a watery discharge with it, and then it gets much better." She accounts for what she terms this "new development" by catching cold and getting her feet wet at the time of her period, which suddenly became arrested, and then she was ill for some weeks. This occurred five years ago, and since that time she has been in increasing ill-health. The only treatment suggested so far has been hot douches between the periods, increased in frequency at the time of the middle pain.

In vol. xxi of the 'Transactions of the Edinburgh Obstetrical Society' there is a paper, with notes of a dis-

* Since this paper was written the patient has died. Unfortunately a post-mortem examination was refused.

cussion following, by Dr. Halliday Croom, under the title "Mittelschmerz."

In two out of three of Dr. Croom's cases, in the majority of the cases quoted by subsequent speakers, in all of the four cases quoted by Sir W. Priestley, and certainly in all of my four cases, there has been observed a fulness, if not a distinct swelling, in the broad ligament on the side which has been the seat of pain. In a certain number there has been noted the discharge of clear fluid, sufficiently copious to be remarked by the patient, and to be distinguished from a severe leucorrhœa. This was the conspicuous feature in a case of Fasbender's referred to by Dr. Croom; and though this author tells us that he did not notice anything abnormal about the appendages, yet it is possible that a slight fulness on one side or the other may have been overlooked.

In a fair proportion of the recorded cases of this disorder there has been noted anteflexion, so much so as to give rise to the belief on the part of some that this mittelschmerz is the result of anteflexion; but I think it will generally be admitted that we all know of many cases of anteflexion where there is no mittelschmerz, and there are a sufficient number of cases of middle pain now recorded where there has been sometimes retro- and sometimes anteflexion. In my own four cases the honours are divided.

The pathological interest of this disorder may be practically narrowed down to the question of whether it be due to ovulation and menstruation not being coincident, or whether it be necessary for a tubal lesion to exist.

Dr. Croom has suggested three different classes:

1. Pain existing without any discharge.
2. Pain accompanied by clear discharge.
3. Pain accompanied by coloured discharge.

With regard to the third class of cases, I do not think it need be taken into consideration, for they are probably cases of endometritis in which the discharge of shreds and clots causes painful uterine contractions. But there

remains a number of cases which occur probably to most of us, where the prominent feature is a true mittelschmerz. In many of these cases there has been noted the escape of clear fluid, and in most a fulness, and in some a distinct swelling, which varies in size at different times. I believe that if a careful history of these patients be taken we shall always be able to elicit the fact that there has been a definite cause of inflammation of the endometrium with extension into the tubes. But it may be urged, and rightly, many cases of salpingitis, and even pyosalpinx and hydrosalpinx, occur in which there has been no true definite mittelschmerz. There is of course the pain usually associated with these disorders, wherein it is manifestly tubal but not cyclical; but that is not the character of pain now under discussion. How then are we to account for this periodicity in these cases of mittelschmerz?

It is probably easy to admit that the pain is due in some cases at any rate to an effort on the part of the tube to expel its contents. In three of my cases this expulsion was followed by relief of pain, though this latter fact is not noticed by any authorities I have quoted.

In Sir W. Priestley's remarks upon the pathology of his cases he disregards entirely, and makes no comment upon, the recognised pathological condition of the tubes, but attributes the mittelschmerz to maturation of the follicle not being coincident with menstruation, and he suggests that the pain is induced by activity of the follicle in endeavouring to approach the cortex of the ovary, and that this activity causes a congestive condition of the uterine appendages. The oversight of the fact that in so large a proportion of cases there is some tubal lesion makes us hesitate before accepting the view that it has a purely ovarian origin.

It is suggested that this intermenstrual pain is due to ovulation not being coincident with menstruation, or that the dehiscence of the follicle through a thickened capsule is painful, and that the condition of the tubes has nothing to do with the periodicity of pain.

In answer to that I think the weight of evidence is in favour of some tubal disorder always accompanying this particular character of pain; it may be, and probably is, that in some cases the distension is slight and the discharge proportionately small, and so escapes observation as a prominent symptom; but in many this has been very marked, and a study of the cases shows clearly that in nearly all some alteration of the tubes is noticed; at the same time some cyclical discharge of nerve energy is necessary to account for the marked periodicity. In my case, where I removed the whole of the appendages, the operation was performed—after due deliberation—on account of the serious condition of the patient's health, in consequence of the severe loss caused by the hæmorrhagic fibroids. Nothing is proved except that the patient is cured; in the other case, where the pain and menstruation is arrested by the profound exhaustion of a protracted illness, nothing is proved; and in my other two cases the improvement, if any, is due probably to allaying the irritation in the tubes. Dr. Ritchie, in the discussion following Dr. Croom's paper, attributed the whole of the symptoms to an intermediate discharge of nerve energy. Here I think he attempts to prove too much; for if there were no tubal or ovarian lesion there would probably be no pain, for in a typically normal menstruation, which is due to a discharge of nerve energy occurring at a cycle of twenty-eight or thirty days, accompanied by a manifestation of blood, there is no pain; why then should there be pain at the lesser intermediate discharge of nerve energy?

This is not the occasion to enter into a discussion of the cause of menstruation; but in a paper by Dr. Marsh on "Intermenstrual Phenomena," which appears in the 'American Journal of Obstetrics' for July, 1897, he draws attention to the observations of Dr. Stephenson, of Aberdeen, on the rise and fall of blood-pressure occurring in cycles of twenty-eight days in the pelvic viscera; this rise reaches its maximum every twenty-eight days, and

the menstrual flow is coincident with this maximum; this is followed by a corresponding fall, producing an anæmic condition. This alteration of blood-pressure is due to a cyclical discharge of nerve energy. There is nothing unusual in this periodicity; for there are in most organs periods of activity alternating with periods of rest, for instance, the rhythmical beating of the heart and the rhythmical contractions of the spleen.*

I have no difficulty in accepting the view of Dr. Marsh and Dr. Ritchie that there may be a secondary intermediate wave of pelvic congestion caused by a secondary wave of nerve energy, but in face of the fact that we have but comparatively little evidence of ovarian lesions, and we have plenty of evidence of tubal lesions, I think it is to the latter that we must assign the exciting cause of this intermenstrual pain. There has been a growing tendency to regard many cases of supposed ovaritis as really tubal congestion, and the careful observations made after abdominal sections seem to confirm this view.

In Fasbender's case, whilst he accepts Pfluger's theory of menstruation, he lays marked emphasis upon the copious discharge of mucus, and discovered nothing abnormal about the appendages, and regards the pain as due to a premature summation of nervous stimuli to the ovary, with ovulation as a consequence, induced by a pathological condition of the ovary. I cannot help thinking that there is here also a too great tendency to theorise without due regard to clinical facts; for he has to suppose a pathological condition of ovary, and yet admits he discovered none. This is of course perfectly easy to understand, but he offers no explanation of the flow of mucus.

The precise pathology of this somewhat unusual disorder it is perhaps impossible to determine with our present knowledge, and it is rendered more difficult by our having

* This periodic congestion of the ovaries is illustrated by a case quoted by Priestley, in which the ovaries had descended into the inguinal canal, and every twenty-one days were found to be enlarged and tender for a period lasting three or four days.

no records of post-mortem examinations made with the object of elucidating this question; but it seems to me, in weighing the evidence of observed facts, that the tubes play a very important if not an essential part. An examination of the thirteen cases which have been recorded shows that in no less than ten there has been a distinct tubal lesion—in some a marked swelling, in others a fulness; and excluding Sir W. Priestley's cases, where no comment is made, of the remaining nine I find that in six there is a note of a mucous discharge, and in two cases in which the tubes have been removed hydrosalpinx has been observed. We cannot, therefore, look upon the ovaries as the sole offenders; I think we must come to the conclusion that there are a certain number of women who, from some cause or another, have developed a tubal lesion, and being subjects in whom the physiological cycle of pelvic congestion occurs with increased frequency, there is painful effort on the part of the tube to expel its contents.

Case.	Name of observer.	Condition and position of uterus.	Clinical note of appendages.	Condition found at operation.	Nature of discharge (if any).
1	Sir Wm. Priestley	Not noted	Elastic swelling in broad ligament	None	None noted.
2	,,	,,	,,	,,	,,
3	,,	,,	Fulness in region of broad ligament	,,	,,
4	,,	,,	,,	,,	,,
5	Fasbender	Anteflexion	Nothing abnormal observed	,,	Copious clear mucus.
6	Croom	Normal	,,	,,	None noted.
7	,,	Enlarged to 3½ inches; submucous fibroid	—	Right ovary cystic; tube thickened; left ovary normal; hydrosalpinx	Sometimes clear, sometimes blood-stained.

Case.	Name of observer.	Condition and position of uterus.	Clinical note of appendages.	Condition found at operation.	Nature of discharge (if any).
8	Croom	Enlarged; retroflexed	—	On left side hydrosalpinx	—
9	Marsh	Retroflexion and endometritis	"Inflamed ovaries;" tubes not noted	None	Mucous discharge.
10	Addinsell	Anteflexion	Elongated swelling in left broad ligament; left ovary tender; right normal	,,	Copious mucous discharge.
11	,,	Retroflexion; enlarged to 4½ inches; several fibroid nodules	—	Left ovary prolapsed and matted to uterus; tube found much thickened after removal	,,
12	,,	Retroflexion; fibroid nodules	Soft elastic swelling in left broad ligament	None	Frequent discharges of clear watery fluid.
13	,,	Anteflexion	Fulness in right broad ligament	,,	Slight, clear, and watery.

Dr. Herman believed that this was the first time that the subject of so-called "intermediate dysmenorrhœa" had been discussed by the Society. He agreed with Dr. Addinsell in thinking that it was incorrect to apply the term "dysmenorrhœa" to a pain which only occurred when the patient was not menstruating. At the same time he did not think they need resort to German for a name. "Middle pain," the literal translation of "Mittelschmerz," he did not think a happy coinage. "Intermediate monthly pain" was a correct designation of the symptom. He had not, like Dr. Addinsell, found that the pain always recurred fourteen days after menstruation. He had found that the date of its recurrence varied. The feature common to all the cases was that the pain recurred on a fixed day between menstruations; the patient knew when to expect it; it always recurred on or about the same day in the same patient, but it recurred on different days in different patients. He was accustomed to accept the explanation of the pain put

forward by Sir W. Priestley, viz. that it was due to monthly recurring painful ovulation. The evidence of abdominal sections showed that Graafian follicles might ripen and burst at any time of the menstrual cycle, although they usually burst near the time of menstruation. In most of the cases he had seen, as in Dr. Addinsell's cases, there were physical signs of old inflammation of the uterine appendages. In most such cases there were adhesions around both ovary and tube; and it was not possible to say that the tube was diseased and the ovary healthy. In most of the cases he had seen the pain had the characters of ovarian pain, a dull aching or burning continuous pain referred to the situation of the ovary. If the ovary were surrounded by adhesions, that offered a ready explanation of why ovulation was painful. He thought that for diseased and distended tubes to empty themselves into the uterus was a very rare event. When at operations such tubes were pulled up, and so straightened out and even pressed upon, any lessening in their size by passage of their contents into the uterus was a thing hardly ever, if ever, seen. In the case described by Dr. Addinsell in which this was supposed to have happened, the size of the swelling by the side of the uterus showed that the retained fluid could only have been a very small quantity. It was common for increase in leucorrhœal discharge to accompany intermediate pain. He had seen one case in which the intermediate pain was evidently due to uterine contractions. The patient had fibroids; the pain was like that of spasmodic dysmenorrhœa, except that it was not present when the patient was menstruating; it was made worse by ergot, was a little relieved by bromides, and was removed by dilating the cervix. After a few months it returned, and was again cured by a repetition of the dilatation. He could offer no explanation of this case. He had seen other cases of intermediate pain without any physical signs of disease of the uterus or its appendages. He thought the Society was indebted to Dr. Addinsell for his careful, laborious, and thoughtful paper.

Mr. Bland Sutton remarked that Dr. Addinsell's paper interested him especially on account of the effort to associate the pain with lesions of the Fallopian tubes. He had long held the view that fluid distensions of the tubes did not discharge themselves into the uterus, and the old notions of intermitting hydro- and pyosalpinx were not sustained by reliable evidence. It was of course impossible to say that fluid from a distended tube never escaped into the uterus, but he was convinced that it was of very exceptional occurrence. Very free discharges of fluid may and do take place from the vagina, but that was no reason for attributing their origin to the Fallopian tubes. Dr. Addinsell's paper would serve a useful purpose, for it is clear that intermenstrual pain has not received the clinical

recognition it needed, and now attention had been so prominently directed to it, some light would perhaps soon be shed on its causation.

Dr. Amand Routh saw no difficulty in explaining this intermenstrual pain if once it could be assumed that in certain cases there was an intermenstrual cycle as well as a menstrual one. All that was then required was to have some pelvic organ, such as a distended tube, an ovary with thickened capsule, or a growing encapsuled fibroid, for in each case the pain of increased *tension* would be present. He had now under observation a lady with small multiple fibroids, with this intermenstrual pain occurring ten days before the "period," and in her case he was able to prove by vaginal examination that the fibroids underwent an increase in size and tension both at the menstrual and, more markedly, at this intermenstrual epoch.

Dr. Boxall was of opinion that we are far from being able at present to fix the cause of intermenstrual pain on any one pelvic lesion. He instanced a case in which periodic intermenstrual pain, commencing fourteen and ceasing three days before each period, was a marked feature. No intermenstrual discharge was noticed in association with it. In that case the uterus at first was unusually small and anteflexed and low in the pelvis, the patient sterile. Four years after marriage the cervix was dilated under an anæsthetic. The prolapse was corrected by wearing a pessary for a short time. The pain was for a time relieved. Subsequently both ovaries were found to be prolapsed but not enlarged, and the uterus was retroverted, but there was from first to last no sign of tubal disease. The pain returned, but again disappeared as the tone of the pelvic organs was regained. Two and a half years after the dilatation this lady became pregnant, but miscarried. Before this it was noticed that the uterus was irregularly enlarged by a fibroid, and the periods were somewhat excessive. The fibroid enlargement persists. The patient is now pregnant again, and has nearly reached the full time; but since her previous miscarriage she has had little or no intermenstrual pain. The permanent disappearance of the pain in this case appeared to be due to improvement of tone in the pelvic organs associated with a general improvement in health.

Dr. Heywood Smith said that, in spite of what had fallen from previous speakers, looking to the list of cases and noting that in the majority there was some lateral swelling and also the evacuation of some fluid, he considered the disease under consideration was associated with intermittent tubal hydrorrhœa. The oviduct during menstruation was not only swollen, but its lumen was enlarged, becoming then the seat of inflammation; in these cases the inflammation did not go on to the extent of closure of the ends of the oviduct, such as took place in cases of

hydrosalpinx, but the fluid thrown out had a way of escape by the uterine orifice. In these cases, however, or the majority of them, there existed some condition of flexion. What took place then was that the flexion, altering the relative position of the oviduct, produced a kink at the junction of the oviduct and the uterus, thereby preventing the free escape of the fluid and giving rise to the pain, until its accumulation partly straightened out the oviduct and allowed the fluid to escape. A case came under his observation some years ago where there was a distinct swelling in one lateral *cul-de-sac*, which, after the evacuation of some fluid discharge *per vaginam*, used to disappear. In this case he removed the appendages, and the case was cured.

Dr. Arthur Giles thought that the name "intermenstrual pain" was not altogether a happy one, as it rather suggested that the pain in question had something to do with menstruation or ovulation, which was an hypothesis by no means proved. He was inclined to look at it from another point of view, and to dwell on the facts which came out in Dr. Addinsell's table, viz., firstly, the almost constant association of this pain with tubal mischief, or at least with a condition pointing to disease of the annexa; secondly, its frequent and remarkable association with a copious watery discharge from the uterus. True, the condition of intermittent hydrosalpinx was, as Mr. Sutton and Dr. Herman had pointed out, very rare; but there were cases where the discharge could not well be explained on any other supposition. If a condition of intermittent hydrosalpinx were present, it was not unreasonable to suppose that the swelling of the uterine mucosa during menstruation might lead to temporary occlusion of the uterine ostia of the tubes. Consequently the secreted fluid would accumulate, leading to pain due to distension of the tube. It would take some days for a distension to occur sufficient to cause pain. Once the congestion of the mucosa had subsided after menstruation had ceased, the temporary obstruction might be relieved, with the result of a discharge of clear fluid and cessation of pain. In this way the rhythmical character of the pain would be sufficiently accounted for, without falling back on the somewhat difficult supposition that ovulation was painful. It was, however, clear that more observations of this interesting condition would be required before any pronounced opinions could be held concerning it.

The President congratulated the author of the paper on having brought forward a very interesting subject. It was evident, both from the paper itself and the remarks of the various speakers who had taken part in the discussion, that the cause of the phenomena described was still far from being understood. None of the theories that had been put forward appeared satisfactory. Taking, for example, the theory that the pain was due to tubal distension, and the serous vaginal dis-

charge to escape of the contents through the uterine end of the tube, he would not say that this never took place, but we had as yet no indisputable evidence of such an occurrence. If it ever did occur it must be an event of extreme rarity. The author had stated that "in nearly all the recorded cases a tubal lesion is present, which he believes to be salpingitis proceeding to hydrosalpinx." An examination of the table did not seem to warrant that statement. In only three out of the thirteen cases were the tubes known to have been diseased. In one of these three one tube was thickened, in one both tubes were thickened, and in the third there was a hydrosalpinx. In two cases there was no abnormality of any kind observed. In one case the ovaries are said to have been inflamed, and the condition of the tubes was not noted; whilst in the remaining seven the presence of a tubal lesion was a mere matter of inference, some fulness or an elastic swelling having been discovered in the region of the broad ligament. The association of salpingitis with the phenomena, therefore, rested on a very slender basis. With regard to the discharges of clear fluid from the vagina, he would, without in any way impugning their genuineness in the cases cited, point out that such discharges should not too readily be regarded as having any pathological significance, or we might be led into fallacies. He mentioned cases in illustration. In one the discharge proved to be urine, in another plain water that had become pent up in the vagina whilst the patient was in her bath. He suggested that the table might with advantage be altered so as to show in separate columns the physical signs and the conditions actually seen during operation or in the post-mortem room. These were at present included under one heading. Their diagnostic value, however, was so different that they should be tabulated separately. The paper and discussion would no doubt arouse interest in the subject, and lead to further investigation.

Dr. Ewen Maclean asked Dr. Addinsell if he had had opportunity in any of his cases of examining during the menstrual period, and if so, were the physical signs at that time similar to those found at the time of the mittelschmerz. If such a similarity did exist, it was possible some of these cases might be regarded as an attempt at double menstruation resulting from the overlapping of two menstrual cycles. Such anomalies had been definitely traced in the varying types of ague.

Dr. Addinsell thanked the President for his suggestions as to the alteration of the table of cases, and he undertook to arrange a separate list which would show at a glance the cases supported by clinical evidence only, and those in which an operation had been performed. He shared the scepticism of the President as to placing any reliance upon the patient's description of vaginal discharge, and he fully recognised the importance

of the criticisms of Dr. Herman, Mr. Bland Sutton, and the President with regard to the question of the patency of the uterine ostium and the possibility of the fluid contained in a dilated tube passing through the ostium into the uterus and out by the vagina. As he understood the position, these three authorities denied this possibility, or at any rate thought it extremely rare; with this view Dr. Addinsell could not agree. He had satisfied himself, after very careful examination, that a swelling existing on one or other side of the uterus might, and in his experience in some cases did, disappear after the copious discharge of clear mucus accompanied by pain. He cited a case, reported by Dr. Galabin in the 'Transactions' of 1893, in which a recurrent hæmorrhagic discharge was present, and where a swelling appeared and disappeared. He maintained that the patency of the uterine end of the Fallopian tube was fully recognised by competent observers; and he quoted Dr. Griffith and others who had demonstrated this condition. In his opinion the case quoted by Mr. Sutton was not germaine to the point. In the cases under his own observation he failed to see how the phenomenon could be explained by any other hypothesis than the one he had suggested, and he was supported in this view by the fact that in the one case he had operated upon the tube was found to be distended and thickened. He admitted that the evidence was inconclusive in regard to recorded cases verified by operation and post-mortem examination, but he maintained that the few cases that had been operated on and the whole of the clinical evidence were entirely in his favour.

APRIL 6TH, 1898.

C. J. CULLINGWORTH, M.D., President, in the Chair.

Present—39 Fellows and 4 visitors.

Books were presented by La Société de Médecine de Rouen, the Boston Lying-in Hospital Staff, Dr. J. A. Shaw-Mackenzie, and Dr. Herbert R. Spencer.

Henry Macnaughton-Jones, M.B., B.Ch., was admitted a Fellow of the Society.

Claude Wilson, M.D.Edin. (Tunbridge Wells); A. J. Sturmer, Surgeon Lieutenant-Colonel, I.M.S. (Calne, Wilts); Claude Edwin Purslow, M.D.Lond. (Birmingham); and David J. Evans, M.D.McGill (Montreal), were declared admitted.

The following gentlemen were proposed for election: John Edward Gemmell, M.B., C.M.Edin.; John Robinson Harper, L.R.C.P.; Godfrey D. Hindley, L.R.C.P.Lond.; Alfred Gervase Penny, M.A., M.B., B.C.Cantab.; Sidney Herbert Snell, M.D., B.S.Lond.; and Charles Robert Watson, M.D.Brux.

UTERINE FIBROID WITH ANOMALOUS OVARIAN TUMOUR.

Shown by Dr. Macnaughton-Jones.

Dr. Macnaughton-Jones showed a large uterine fibroid, together with a solid ovarian tumour of an anomalous character, which was associated with it. The patient, a widow, nulliparous, aged 47, was sent for examination in consequence of an obscure affection of the left hip, in which for four months she had suffered constant pain, attended by some swelling of the thigh, with occasional difficulty in walking. The catamenia had been regular, and she had not suffered from any hæmorrhage. Examination revealed the tumour exhibited, which filled the pelvis and reached almost to the umbilicus. Intra-peritoneal hysterectomy was performed on February 2nd, when the ovarian tumour, having the appearance of a multiple fibromatous mass larger than an orange, was discovered. The right ovary was healthy. The patient made a rapid recovery without any complication.

The interesting clinical feature in the case was the discovery of the cause of the symptoms in the hip and thigh, as revealed by the detection of the uterine tumour, doubtless aggravated by the solid left ovary, which was jammed downwards and to the left side. The pathological point of interest lay in the anomalous nature of the ovarian tumour, a section of which, prepared by Mr. Targett, was exhibited. As he was present, he would state his views as to the pathological features of the tumour.

For Report of Pathology Committee see p 213

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RUPTURE OF AN EARLY (FIFTEENTH DAY) TUBAL GESTATION COMPLICATED BY FIBRO-MYOMATA OF THE UTERUS.

Shown by E. Rumley Dawson.

The specimen which I show to-night was obtained post mortem from a woman to whom I was called at 10.30 p.m. on Monday, March 7th, 1898.

I found her cold and collapsed, but quite conscious, with great pain in the lower abdomen, which she ascribed to the approaching onset of her menstrual period, which was due that day, but had not yet appeared.

She had that day done a heavy washing, but denied having in any way hurt or strained herself.

The diagnosis made was internal hæmorrhage, probably a menstrual hæmatocele, or rupture of a vein of the pampiniform plexus, induced by the hard work done at a time when the vessels were congested by the approaching onset of menstruation.

As she had been quite regular on February 6th, there was no missed period to help to a correct diagnosis, and the possibility of pregnancy seemed quite negatived. She gradually got worse, complained of frequent desire to micturate and defæcate; and in spite of what she was told, insisted on getting out of bed to make attempts at both.

There was a slight show of blood *per vaginam* previous to death, which occurred at 3 a.m. on March 8th.

The patient was a nullipara, married five months, reputed age 32, but looking much older.

The patient's husband, aged 28, had just been nursed through a sharp attack of influenza by the patient, and it was while seeing him on Sunday, February 6th, that I became aware that the wife was menstruating by her complaint of pain and diarrhœa, which were to her usual

accompaniments. The husband's illness began on February 4th, *i. e.* two days previous to this period, which, beginning on February 6th, lasted four days, and was quite normal in amount.

Owing to the illness of the husband, *no sexual intercourse* took place till February 20th, and then on one occasion only. This gives *fifteen days only* from insemination to death on the early morning of March 8th. The day of her seizure was the date the next period was due, viz. March 7th. She was in no way ill until 8.30 p.m., *i. e.* about an hour after having tea, when she started vomiting, and speedily became collapsed, and died as stated at 3 a.m. next morning.

The post-mortem was made on March 9th.

The breasts were quite virginal. There were several pints of fluid blood in the peritoneal sac, and some half-dozen handfuls of clotted blood in the pelvis, and around the uterus. Probably the pressure of this blood on rectum and bladder explains the constant desire experienced to empty them.

The right Fallopian tube had ruptured near its uterine end; from the rupture was protruding a brownish-pink or raw cocoa-coloured flocculent-looking clot, which was unfortunately lost among the blood and clots in removing the uterus from the pelvis.

The uterus, as will be seen, is considerably enlarged, more so than can be ascribed to the period of gestation; but the numerous fibro-myomata present undoubtedly furnish the true cause. The cervix was plugged with mucus. On opening up the uterus a large purple-coloured (in the fresh state) decidual membrane was seen.

The right ovary contained a corpus luteum.

The following points seem to make the specimen unusually interesting:

(*a*) The *very early period of rupture, i. e.* fifteen days after impregnation; most cases have missed two periods.

(*b*) The *patient was a nullipara.* It is rare for the

first pregnancy to be extra-uterine unless a long period of sterility had followed marriage.

(*c*) The *presence of multiple fibro-myomata* in the uterus, causing its enlargement.

(*d*) The *large decidual membrane* for the period of gestation.

Dr. Herbert Spencer said Mr. Dawson's specimen was one of great interest on account of the early period of pregnancy at which rupture had taken place. He had operated on a case in which the gestation sac could not have been more than two or three weeks old, the tubal swelling being even smaller than in Mr. Dawson's specimen. He operated on the patient when suffering from extreme collapse owing to the large quantity of blood which had escaped from the ruptured tube; the patient made a good recovery. The specimen in which the tubal swelling was not larger than a pea, and another somewhat larger, were in University College Museum, and they and Mr. Dawson's specimen were the smallest ruptured tubal gestation sacs he had seen. With reference to Mr. Dawson's remark as to the rarity of tubal pregnancy in primiparæ he had recently seen two cases, in one of which there were strong reasons for believing the patient's statement that it occurred after the first and only coitus, and in the other after the first coitus for several years.

Dr. Peter Horrocks asked why the patient had not been operated upon. However desperate these cases seemed, it was worth while giving them a chance, and he advocated in apparently moribund cases that intra-venous injection of saline fluid should be carried on at the same time as laparotomy. Great as was the hæmorrhage from an apparently small slit in the ruptured Fallopian tube, it was no greater than took place from a small piece of placenta left behind in the uterus in some cases of miscarriage. It has appeared to him that it was partial separation that caused this excessive hæmorrhage, and that if the whole product of gestation in the uterus came away, or, if in the tube, if it escaped into the abdominal cavity, then there was but little bleeding, the parts being able to contract and retract. He had made use of this in operating in extra-uterine cases. When the placenta was detached a little the hæmorrhage was sometimes alarming, but if the whole placenta was boldly detached the bleeding became much less, and was more easily controlled.

Dr. Herman pointed out that there were no adhesions, and that in cases of ruptured tubal pregnancy there seldom were. This made the operation in such cases usually an easy one, and

if done in time, and with clean hands and instruments, it would generally be successful. It was so important that it should be done early, that it would often have to be done by the doctor who first saw the case.

Mr. Dawson, in reply to Dr. Horrocks as to why no operation was performed, said that the entire absence of symptoms of pregnancy, and the very recent and regular menstruation, so apparently negatived the possibility of extra-uterine pregnancy that in spite of her very grave condition, and, owing to the lateness of the hour, the impossibility of summoning the aid of a specialist, he should undoubtedly have attempted an operation had he known then what they could all see now by examining the specimen. The difficulty of diagnosing a fifteen-day old extra-uterine pregnancy must be admitted by all, for the President, Dr. Cullingworth, had himself had to admit, in a case ruptured at the fourth week, that "there had been no missed menstrual period to help to a correct diagnosis." As to the statement just made that hæmorrhage was only slight if the ovum came away completely on rupture of the tube, and excessive if only partially detached, the present specimen showed just the opposite, for the ovum was completely detached, and the hæmorrhage so excessive as to be fatal In answer to Dr. Cullingworth's criticism of the statement that first pregnancies were rarely extra-uterine unless sterility had existed for a long time previously, Mr. Dawson had looked through the Society's 'Transactions' for the last six years, and had only found one case recorded of the first pregnancy soon after marriage being extra-uterine, viz. by Dr. Playfair in July, 1895. Dr. Galabin's case, February, 1896, was the second pregnancy, although within a year of marriage. Dr. Cullingworth had himself shown, in April, 1895, a first pregnancy being extra-uterine, but after over fifteen years' sterility. Dr. Giles had shown one after thirteen years' sterility. The dilated portion of the tube where the ovum was arrested was roughly an ovoid, measuring half an inch by a quarter of an inch, and the length of the tear was a quarter of an inch in the long diameter of the tubal swelling. The specimen when mounted will go to the Westminster Hospital Museum.

FIBRO-MYOMA OF UTERUS PROJECTING INTO VAGINA, REMOVED BY ABDOMINAL HYSTERECTOMY.

Shown by Walter W. H. Tate, M.D.

The specimen shown was the uterus and appendages removed by abdominal hysterectomy. The patient, a single woman aged 40, had suffered from severe and increasing menorrhagia for three years, associated with great pain and some difficulty in micturition. On examination the tumour was found to extend upwards to a level of 3½ inches above the umbilicus. The vagina was occupied by a smooth rounded mass, the size of a fœtal head, which reached to within an inch of the vulva. No evidence of any pedicle could be made out as high as the finger could reach, nor could the position of the cervix be identified.

As it was evident that the mass in the vagina was continuous with, and a part of, the tumour in the abdomen, it was decided to perform abdominal hysterectomy by the intra-peritoneal method.

The tumour removed weighed 5 lbs. 12 oz., and measured 9 inches long by 6 inches across the broadest part. The part of the mass which occupied the vagina measured 4½ × 4¼ inches.

Dr. Peter Horrocks said that, looking at the specimen, it might be thought that it would have been an easy matter to cut pieces out of the part projecting into the vagina until the whole of this had been removed, and then to have tried to enucleate the part remaining *in utero*, but this was not always free from danger. There was little or no hæmorrhage when such a fibroid was cut in that way, but when the adhesions between the fibroid and the uterine wall came to be separated the hæmorrhage was apt to be serious and uncontrollable. He mentioned a case at present under his care where the patient lost so much blood when the lower part of the tumour had been separated

from the uterine wall, manipulating *per vaginam*, that the operation had to be abandoned and plugging had to be resorted to, and also intra-venous saline injection of 4½ pints. The patient was recovering slowly at the present time from the dangerous state she was in, and later he proposed to operate through the abdomen. But instead of removing the whole uterus he intended to put an elastic ligature round it, open the uterine cavity and shell out the tumour, stop the hæmorrhage, and sew up the uterine wall as in a case of Cæsarean section.

In reply to remarks by Dr. HORROCKS and Dr. FENTON, Dr. TATE replied that in cases like the present, where a fibroid tumour of considerable size exists in the abdomen associated with a mass projecting into the vagina, which shows no evidence of pedunculation, the safer treatment is to perform abdominal hysterectomy, rather than subject the patient to the risk of a difficult and probably incomplete enucleation *per vaginam*.

THE MENSTRUATION AND OVULATION OF MONKEYS AND THE HUMAN FEMALE.

Shown by Walter Heape, M.A.,
TRINITY COLLEGE, CAMBRIDGE.

Introduced by W. S. A. Griffith, M.D.

Menstruation.

Since 1894, when I had the honour of bringing before you a brief notice of my work on the menstruation of *Semnopithecus entellus*, I have investigated that phenomenon in *Macacus rhesus*, and I find that histologically the process is practically identical in both species. The same periods of rest, growth, degeneration, and recuperation are seen in *M. rhesus* as I described to you before in *S. entellus*, and the same stages of growth of stroma and increase of vessels, of a breaking down of the congested vessels and the consequent formation of lacunæ, which come to lie close beneath the uterine epithelium; of degeneration of the superficial mucosa and subsequent rupture of the lacunæ; and of denudation of the superficial portion of the mucosa and the consequent formation of a menstrual clot, are clearly shown in *M. rhesus* to be identical with the same stages which I before described in similar words as occurring in *S. entellus*.

I am glad of this opportunity of recounting the similarity which is thus shown to exist in these two species of monkeys, for when I read my former paper I felt that you might well demand further proof that the process I described was not confined to the species I had at that time alone thoroughly investigated.

I had, indeed, at that time made some investigations on *M. rhesus*, and felt fairly sure that I should be in a position to show that the process of menstruation in *M. rhesus* was practically identical with that process in *S. entellus*; but, in view of the researches of Mr. Bland Sutton, it was necessary that I should make sure of my opinion, and this I am now in a position to assure you I have done.

As in *S. entellus*, so in *M. rhesus*, the congestion and rupture of the superficial vessels of the mucosa is followed by the formation of lacunæ, by degeneration of the superficial portion of the mucosa, and by denudation of that tissue and the formation of a menstrual clot.

Mr. Sutton was of opinion there was no disintegration of the mucous membrane in *M. rhesus*, and that blood emerged from the congested mucosa in much the same way as blood escapes from the nasal or buccal cavities in man during congestion.

It may well be that Mr. Sutton was misled in his conclusions on account of the conditions under which the specimens he worked at lived.

Captivity, and the unfavourable climate of this country, very probably check the free exercise of the menstrual function in monkeys, which are accustomed to a very active life and a more congenial atmosphere; and, judging from the specimens I kept in Cambridge, it may be that menstruation is at any rate partially suppressed, and that normal menstrual phenomena were not to be found.

In India, however, *M. rhesus* does menstruate in the same way as *S. entellus*, and the specimens to be seen under the microscopes will, I think, definitely prove that fact.

There is little to add to the histological account I laid before you on the occasion of my first paper; in *M. rhesus* the mucosa is somewhat thicker, the protoplasmic network denser, and the glands more numerous and more branched than in *S. entellus*; but these are the only histological differences of moment to be seen during the resting stage. The same may be said during all the other stages of

menstruation, and, bearing in mind the slight differences mentioned above, the sections of uteri of *M. rhesus* might well be taken for those of *S. entellus* throughout the menstrual process.

In the human female I have two uteri, which it will, I think, be interesting to compare with monkeys.

Sections of these uteri are exhibited under the microscopes at the table. The first of these was obtained from Dr. Lloyd Jones, of Cambridge. I have, however, no details of the case.

When I examined the uterus, which was brought to me intact, there was nothing in it; the mucosa was smooth and fresh-looking, it was highly congested, and the surface exhibited a crowded network of brilliant vessels.

Sections showed that the vessels throughout the mucosa were greatly congested, and it is noticeable that many large vessels lie close under the epithelium of the uterus.

Here and there the epithelium is broken away, but I have little doubt that this is due to bad preservation and faulty manipulation.

It is noticeable that the vessels in this uterus are larger and more congested than those in either Semnopithecus or Macacus; but they are vessels bounded by epithelial walls, and as yet they have not broken down, and no blood is extravasated.

I judge this specimen to exhibit an early stage of menstruation, comparable to Stages III and IV of monkeys.

The second specimen was obtained by Dr. Maxwell, and forwarded to me by Dr. Champneys.

The case was admitted to hospital on September 9th, and died September 10th, after twelve hours' coma, from cerebellar abscess. Post-mortem showed that the subperitoneal tissue covering the uterus and broad ligaments was deeply congested; so also was that portion lining the bottom of the utero-vesicular and utero-rectal pouches. At the brim of the pelvis, however, the congestion faded away, and the subperitoneal tissue there, and also at the

back of the abdomen, was normal. The uterus was strongly retroflexed, the fundus lying at the bottom of Douglas's pouch.

On examination of the uterus I found therein a menstrual clot composed of blood-corpuscles and mucosa tissue, epithelium, and stroma tissue. Sections showed congested vessels in the mucosa, extravasated blood, and denudation.

This specimen, then, I judge to be comparable to Stage VII of monkeys' menstruation.

The torn edges of the mucosa are not apparently so ragged as is shown in the Semnopithecus specimen, but it must be remembered the uterus was preserved with the menstrual clot *in situ*, and with the walls of the uterus closely pressing upon it, and this would no doubt tend, by contraction of the muscular tissue during preservation, to flatten down the torn tissue.

These two specimens are interesting, and they certainly show congestion and denudation. Specimens showing the formation of lacunæ are, however, wanting to me as yet, and I cannot show whether lacunæ are really formed, or whether those large congested vessels which we see in the first specimen lying close beneath the epithelium break through the epithelium and disgorge their blood straight into the uterine cavity.

The only evidence which my specimens show against this view is the existence of large quantities of uterine epithelium and stroma tissue in the menstrual clot, and it is difficult to see why this material should be discarded if the blood is poured straight from the vessels into the uterine cavity. Specimens of the intermediate stages are, however, necessary in order to definitely show this point.

I may perhaps mention here that I see no sign in these specimens of the decidual tissue described by Overlach ('Arch. f. mik. Anat.,' vol. xxv, 1885) and others. One cannot help thinking that the specimen he saw was one of early miscarriage at a menstrual period, and in support of that view I may add that I found decidual tissue in a menstrual

clot which was submitted to me for examination, and in that case the probability of miscarriage was acknowledged.

In my former paper before this Society I drew attention to the external signs of menstruation and to the menstrual discharge. I do not think I have anything to add now on these points. There is, however, a point to which I would draw your attention, and that is the fact that menstruation occurs in animals which have a definite breeding season.

Saint-Hilaire and Cuvier describe a regular discharge of blood from the generative organs of Cercopithecus, Cynocephalus, and Macacus. Sutton says the Macacus which he investigated menstruated fairly regularly (he obtained them from the Zoological Gardens in London). The late Mr. Bartlett, of the Zoological Gardens in London, and Mr. Sányál, Superintendent of the Zoological Gardens in Calcutta, both assured me that monkeys menstruate regularly in their establishments, and the specimens of *Semnopithecus entellus*, *Macacus rhesus* and *cynomolgus*, and *Cynocephalus porcarius*, which I had under observation at Calcutta, menstruated regularly for the few months I watched them; and, be it noted, that time was not the breeding time.

There is, then, good reason to believe that monkeys menstruate regularly, though doubtless it would be satisfactory to have further confirmation of the fact.

That monkeys have a definite breeding season there seems to be little room for doubt. Dr. Aitchison assures me that *M. rhesus* in Simla breeds about October. I got most of my specimens of the same species from the plains near Muttra, and a very large proportion of these bore advanced embryos *in utero* during January and February, while in March most of them had undergone parturition, thus showing that on the plains *M. rhesus* has also a definite breeding season, though at a different time of the year from individuals of the same species at Simla. Again, *Semnopithecus entellus* in the jungles on the south bank of the Hugli, from whence the specimens came at which I worked, have also a definite breeding season. I

was assured of that fact by the collectors, and am very sure the specimens I saw were not breeding at the time I was in the country from December until April.

That monkeys should have different breeding times in different parts of the continent of India is not surprising. *M. rhesus*, for instance, lives over an area between latitude 34° and 17°, longitude 73° and 90°, from sea level to an altitude of 10,000 feet, and the variations in climate and food are sufficient to account for all possible variations in breeding seasons. I think, then, we are justified in concluding that some monkeys, at any rate, have a definite breeding season.

Thus certain monkeys menstruate all the year round, although they breed only at certain times, and this seems to me to be a fact of considerable importance.

In this particular they differ from all the lower mammals as far as is known, who breed only at times of "heat," and who experience "heat" only at certain times, although those times may recur with more or less frequency, and extend over a variable length of time. They differ also from most of the higher Primates, who are capable of breeding at all times. But there are certain human females who breed only at particular times also; and although, as Mr. Doran pointed out when discussing the last paper I read before you, the cessation of breeding amongst the northernmost Esquimaux, during the long arctic winter, is accompanied by a cessation of menstruation during that time also, still in Queensland, where I am assured a special breeding season is observed by some of the natives, there seems no reason to conclude that they do not menstruate regularly.

Monkeys, then, occupy an intermediate position between man and the lower mammals in this particular: although they differ from the latter inasmuch as they menstruate regularly, they resemble them in having special breeding seasons; and while they resemble man inasmuch as they menstruate regularly, they differ from him in their limited breeding season.

This is an interesting connection, and when it is shown, as I have good reason to believe from my own observations it will be shown, that the histological changes which take place in the uterus of the lower mammals during "heat" resemble very closely the changes which take place in the earlier stages, at any rate, of menstruation, this connection will be strengthened, and the homology of "heat" and menstruation established.

Ovulation.

The relation between ovulation and menstruation has given rise to much controversy. On the one hand the view is held that ovulation occurs at each menstrual period, while on the other it is maintained that ovulation and menstruation are independent of each other. Again, on the one hand ovulation and menstruation are believed to be both due to the same active cause, while on the other they are believed to be two distinct processes due to independent stimuli, each following their own recurrent cycle, and coincident only by accident.

In *S. entellus* I examined forty-two menstruating specimens, and not one of them had a recently discharged follicle in either ovary.

In *M. rhesus* I examined forty-three adult females; twenty-two of these had no sign of a discharged follicle in either ovary (fourteen were menstruating, and eight were not), and twenty-one had a more or less prominent discharged follicle in one or other of their ovaries. Sixteen were pregnant, or had recently borne or aborted young, one was doubtful, but had probably aborted, one was non-pregnant and non-menstruating, and three only were menstruating.

Thus in *M. rhesus* only three out of seventeen menstruating females were found, in the ovaries of which there was any sign of a discharged follicle, and of these three, two were not of recent origin, and but one remains, which

had been recently discharged, and it was present in the ovary of a female killed during Stage VII, *i. e.* during the formation of the menstrual clot.

This one is undoubtedly a newly discharged follicle; it is prominent, and the ovarian epithelium, attenuated over the greater part of the swelling, is absent altogether at the point where the actual rupture took place. But when exactly the rupture of this follicle took place is difficult to say; those who hold that menstruation and ovulation are coincident would doubtless unhesitatingly assert that the rupture took place during the menstrual period going on at the time of death, but, in view of the fact that in sixteen other menstruating females there is no sign of a recently discharged follicle, one must exercise caution in making such an assertion.

My experience of recently ruptured follicles in the rabbit teaches that this follicle has not just ruptured, it has had time to heal, and I am not prepared to say the rupture did not take place before menstruation began, and that is all I can say.

The only other case which might be interpreted to be a follicle which had burst during a menstrual period is that of the non-pregnant, non-menstruating monkey. This also is a prominent discharged follicle; the ovarian epithelium, however, covers the whole of the swelling, and the point of rupture no longer exists as such. A considerable period must have passed since this follicle ruptured; hypertrophy of the wall of the follicle has taken place, and an unbiassed observer would certainly find no data for deciding that this follicle had ruptured during a menstrual period. I merely draw attention to this specimen because certain writers on the subject habitually take it for granted that a comparatively recently discharged follicle, found in the ovary of a woman at the intermenstrual period, must necessarily be interpreted as evidence of the fact that it ruptured during the last menstrual period. In the same way they will describe a supposed ripe follicle as a follicle which will rupture at the next menstrual period. I think

it cannot be too strongly insisted that such deductions are not justified in the present state of our knowledge of the subject, and it is with that in mind I draw attention to the point.

In monkeys, then, ovulation and menstruation are certainly not necessarily coincident, menstruation can and does take place frequently without ovulation.

With regard to the human female, Leopold and Miranoff ('Arch. für Gynäkologie,' vol. xlv, 1894) state that, in spite of regular menstruation "periods," a follicle does not always rupture; further they add that a corpus luteum may form when menstruation does not coincide with its formation; and finally, they say that ripe follicles may rupture and conception take place at any time.

We may summarise the facts, then, as follows:

For man and monkeys—(1) ovulation and menstruation are not necessarily coincident; (2) menstruation may take place without ovulation. For man alone—(3) ovulation may occur without menstruation.

While these results are in accord with Leopold and Miranoff's statements, I should add that these authors seek to show that in the majority of cases menstruation and ovulation do fall together. They examined forty-two cases, comprising examples of almost all stages of the menstrual cycle, and they say that in twelve of them menstruation occurred without ovulation, while in the remaining thirty cases ovulation happened during menstruation.

This may be so, but these authors give no figures, and one would like to see the specimens which they interpret as newly discharged follicles. They assert, moreover, that a certain follicle, seen in an ovary excised some days after menstruation, would have ruptured at the next menstrual period; and one feels that such a statement can only be made by observers who hold a brief, so to speak, for the usual concidence of ovulation and menstruation.

Thus, while one may feel sure that twelve cases of

menstruation without ovulation occurred, one cannot be so certain that in all the remaining thirty cases ovulation and menstruation happened at the same time.

As an illustration of what I mean, I found in the case of a human female whose uterus was highly congested (the one from which the section was taken which shows great congestion of the mucosa, and which is under one of the microscopes to-night) a bright red raised spot in the left ovary.

This was a follicle with congested outer wall, and might have been taken for a newly discharged follicle, whereas on examination it was found to be a degenerate follicle, which certainly had not been ruptured at all. Other follicles in the ovaries of this case also show degeneration.

With regard to the histology of the corpus luteum in *M. rhesus,* there are three points which are, I think, of interest.

In the first place, no blood-clot was seen in any of them, and this circumstance, while at variance with the usual description of a human corpus luteum, is in accord with the phenomena exhibited by discharged follicles in the rabbit.

In the second place, the first change which takes place in the newly discharged follicle is the thickening of its wall by hypertrophy. As far as I am aware this *cause* of the thickening has not been elsewhere described except by Sobotta (' Arch. f. mik. Anat.,' vol. xlvii, 1896), whose work on the corpus luteum of the mouse I did not see until after my observations had been recorded.

While, thirdly, the cavity of the discharged follicle is first filled with a loose reticulated tissue chiefly derived from the cells of its wall, it then gradually becomes reduced by the growth inwards of that wall, and finally the branched cells, of which the wall was originally composed, gradually undergo change, and eventually become indistinguishable from the ovarian stroma tissue.

I think the specimens under the microscopes will sufficiently illustrate these points.

Origin of Menstruation and Ovulation.

I do not feel able as yet to advance sufficiently connected views to claim for them the dignity of a theory, but I should like, with your permission, to lay before you certain facts which, in my opinion, bear upon the subject of the origin of menstruation and of ovulation.

That both menstruation and ovulation are closely connected with and largely influenced by congestion, there seems no room for doubt; but the origin of that congestion, the stimulus which induces congestion, is not clearly shown.

I do not myself now hold the view that ovulation and menstruation are such distinct processes as some observers maintain. We know that either of them may occur without the other, but we know also that they do occur together; and when it is remembered that in many, possibly in most of the lower mammals, though not in all of them, ovulation and "heat" are indissolubly connected, we may feel certain that in the primitive condition, at any rate, they were both due to the same cause.

In a recent paper, Beard ('The Span of Gestation,' Jena, 1897) has sought to show that "heat" in the lower mammals is brought about by ovulation; his elaborate arguments in this connection are very ingenious, but it is essential for his argument that "heat" and menstruation should be shown to be different processes, for if menstruation can occur without ovulation it cannot be dependent thereon, and as Leopold and Miranoff have shown, in man, at any rate, ovulation does not always occur with menstruation, and cannot, therefore, induce it.

Strassmann ('Arch. f. Gynäkologie,' vol. lii, 1896) has also suggested that the ovary is the seat of the stimulus which induces both "heat" and menstruation. He suggests that the pressure exerted by the growing Graafian follicle on the sensory nerve-endings in the ovary is the exciting cause of the reflex action which brings about

congestion of the genital organs, *i.e.* menstruation or "heat."

There are several facts which are opposed to his theory. It must be granted that a large follicle may exert the requisite pressure his theory demands without resulting in the rupture of that follicle, so that one cannot dispose of this theory by pointing out that menstruation may occur without ovulation; but in almost all the monkeys I examined there was no sign of any large follicles in the ovaries of menstruating specimens; it was not the breeding season, follicles were not growing at the time, and yet menstruation regularly took place.

This fact alone would seem to be enough to show that Strassmann is wrong; but, if I am not mistaken, menstruation may occur after ovariotomy has been performed, and I do not notice that he has attempted to explain this equally conclusive objection to his theory.

Thus it would seem easy to show the unsatisfactory nature of any theory which seeks to relegate to the ovary the responsibility for the necessary stimulus which induces "heat" or menstruation. In the same way it can be shown that the uterus is not responsible for ovulation, since ovulation may take place without the coincidence of menstruation.

We are, then, obliged to look deeper for the origin of this stimulus, and I would venture to suggest that to the capacity for storing up an excess of nutriment, a capacity which would seem to be present in females of all classes of animals, and to the effect under satisfactory conditions of the loading of the system with nutriment which must result therefrom, we must look for the origin of the stimulus which induces both ovulation and menstruation or "heat."

The importance of this subject is obvious to those whose business it is to combat both sterility and the diseases of the ovary and the menstrual organ, and I indicate the direction towards which my own work has pointed, with the hope that the matter may be of interest to you.

Dr. Peter Horrocks said that in women there was incontestable evidence that ovulation could and did occur without menstruation. For it was a well-known fact that a woman might conceive without menstruating. For example, girls in India not infrequently conceived and bore a child before ever menstruation began. A woman during the amenorrhœa associated with lactation occasionally conceived again without menstruating. He had known instances where a woman had not menstruated for many years after her marriage, because she conceived, bore a child, conceived again during lactation with amenorrhœa, bore another child, and so on for six or more successive pregnancies. Obviously to conceive an ovum was necessary, and an ovum implied ovulation. He did not, however, know any facts which proved that menstruation could take place without ovulation. It was true that after the climacteric women occasionally had a loss of blood from the uterine cavity. But even bleeding from the uterus was not necessarily menstruation, and he did not look upon such post-climacteric hæmorrhages as menstrual periods. Moreover it was a well-known fact that when the ovaries were removed, or if they became wholly degenerated, or if they ceased their function, then menstruation ceased. The question whether menstruation in women was the same thing as the heat or rut in animals was of great interest and importance. He could not help feeling that it was not. If it were, then civilisation seemed to have converted a period of heat into a period of cold, for women were much more averse at those times than in the intermenstrual periods. He believed that ovulation was the first to take place, that the ovum having escaped from the Graafian follicle travelled down the Fallopian tube to the uterine cavity, and if it were not fertilised then it was expelled along with more or less of the mucous membrane of the uterus, constituting the phenomenon of menstruation. In this view menstruation was a miniature parturition, and must be compared with the laying of an unimpregnated egg rather than with the heat or rut of animals. He thought that some of the facts brought forward by the author of the paper pointed in the same direction,—for instance, that monkeys menstruated frequently without ovulating; that is, they had these periods of heat, which were quite different from the menstruation of women, which were associated with and dependent upon the integrity of the ovulating process.

In further reply to remarks by Dr. Griffith, Dr. Horrocks said that because a married woman ceased having children long before she ceased menstruating was no proof at all that she had ceased ovulating. In fact, we knew positively that as long as she menstruated she ovulated, because the corpus luteum corresponding could always be made out or nearly so.

Dr. Herman thought Dr. Heape's valuable paper went to

show how very imperfect our knowledge was of the physiological changes that went on in the ovary. He still thought that menstruation depended, if not upon ovulation, yet upon some ovarian function. He based this opinion on the broad clinical facts that when the ovaries were absent or ill-developed menstruation was never present, and when both ovaries were removed menstruation always stopped. He regarded cases in which it was said that menstruation continued after removal of the ovaries either as instances of pathological, not menstrual hæmorrhage, or as cases in which a bit of ovarian tissue had been left behind.

The President made reference to the recent death of Dr. Remfry, Assistant Obstetric Physician to St. George's Hospital, and of Dr. Charles West, a past President and an Honorary Fellow of the Society, and it was agreed that a suitable letter of regret and condolence should be forwarded in the name of the Society to Mrs. Remfry and Mrs. West.

MAY 4TH, 1898.

C. J. CULLINGWORTH, M.D., President, in the Chair.

Present—29 Fellows and 1 visitor.

Books were presented by the Middlesex Hospital and the Johns Hopkins Hospital Staffs.

Robert D. Muir, M.D., was admitted a Fellow of the Society.

The following gentlemen were elected Fellows :—John Edward Gemmell, M.B., C.M.Edin. ; John Robinson Harper, L.R.C.P. ; Godfrey D. Hindley, L.R.C.P.Lond. ; Alfred Gervase Penny, M.A., M.B., B.C.Cantab. ; Sidney Herbert Snell, M.D., B.S.Lond. ; and Charles Robert Watson, M.D.Brux.

DOUBLE INTESTINAL OBSTRUCTION FOLLOWING OVARIOTOMY.

Shown by J. H. TARGETT, M.S.

Clinical history.—Mrs. J—, aged 49, was admitted to a hospital for an abdominal tumour, which was first noticed three months previously. She had been getting

thinner, but there was no pain. Menstruation regular until four months ago, when it ceased abruptly. No vaginal discharge. Micturition and defæcation normal. Urine normal.

On admission the lower half of the abdomen was much distended by a tumour reaching a little above the umbilicus. The veins in the abdominal wall were much distended over it, and the outline of the tumour was lobulated as in a multilocular ovarian tumour. There appeared to be a localised collection of ascitic fluid in front of the tumour.

Abdominal section was performed, and bilateral ovarian tumours found. They were about equal in size, and 5 or 6 inches in diameter. Their structure was that of the multilocular growth, the loculi being filled with thick gelatinous contents. The veins over the cysts were much dilated, and on the surface of the right tumour there were soft nodules of growth due to perforation of the capsule. These nodules were gelatinous in appearance, and similar deposits were observed on the omentum and mesentery, from which they could be peeled without difficulty.

Recovery was uninterrupted, and the patient was discharged three weeks after the operation.

Six months later Mrs. J— returned to the hospital with extreme distension of the abdomen. She had had attacks of diarrhœa, but lately the bowels had not acted well, and at the time of readmission there had been complete intestinal obstruction for four days. A large hard mass was felt behind the uterus bulging into the rectum, and the distended coils of intestine were visible through the abdominal wall. Left lumbar colotomy was at once performed, but this afforded no relief. As the patient seemed moribund, nothing further was attempted. However, she lingered on for three weeks after the colotomy, contrary to expectation.

Autopsy.—On opening the abdomen the surface of the intestines, omentum, and mesentery was seen to be studded

with small discs of new growth. They were situated entirely in the serous coat, and did not invade the subjacent structures. The abdominal distension was due to obstruction of the lower end of the ileum. The pelvic cavity was occupied by growth and adherent viscera. On the right side a coil of ileum was adherent to the pouch of Douglas below the right ovarian pedicle, and this adhesion had caused obstruction by kinking of the ileum about ten inches above the ileo-cæcal valve. The ileum was enormously distended above this obstruction, but the whole length of the large intestine was contracted. The sigmoid flexure was closely coiled up behind the uterus, and adherent to it by growth. In the rectum about the level of the cervix uteri there was a large mass of growth which had surrounded the calibre of the bowel, and by fungating into its lumen had caused a second obstruction. The ligature of the left ovarian pedicle was not absorbed, but there was no special recurrence of growth in either pedicle. Probably dissemination had occurred through the serous membrane and its adhesions. Microscopical examination of the deposits in the peritoneum showed that they were columnar-celled carcinomata which had undergone very extensive colloid degeneration.

The case is of interest from the existence of two separate obstructive lesions in the intestinal tract, which led to difficulties in diagnosis and treatment. It cannot be said, however, that the obstruction was directly due to the antecedent ovariotomy, for the intestines were adherent to parts other than the pedicles of the ovarian tumours. The ileum was obstructed by a sharp kink, the rectum by the pressure of a collar of new growth, which also fungated into its lumen ; and the possibility of a third obstruction existed, for the transverse colon was drawn down to the pelvis by firm adhesions of the great omentum to the pelvic organs. The comparatively rapid and wide-spread infection of the peritoneum by colloid carcinoma through the medium of peritoneal adhesions is also a noteworthy feature.

Dr. John Phillips mentioned a somewhat similar case which had come under his observation in 1892, and details of which with a figure had been given in the 'Lancet,' 1892, vol. ii, p. 607 ("The remote effects of peritoneal adhesions consequent on removal of the ovaries"). Strangulation of intestine had occurred ten months after an operation for removal of both ovaries and tubes. At the post-mortem the following condition was found:—"From the uterine stump to the small intestine, just before its entrance into the cæcum, a thick adhesion an inch and a quarter long was found extending; it was broader at the intestinal end, and thinned off to a point at its insertion into the uterine stump. Immediately below this was a knuckle of small intestine eight inches in circumference, dark and congested, but not of a chocolate colour. Beneath the intestine again was found the vermiform appendix, much thickened and 3½ inches long; its distal end was attached just above the uterine stump to the small intestine, and peritonitis was just commencing there." The adhesion and displaced appendix enclosed an elongated slit between them, through which a knuckle of intestine had obtruded itself and become incarcerated.

Dr. Heywood Smith suggested, in view of the great importance of guarding against such a misfortune as intestinal obstruction through adhesion to the stump, whether it would not be advisable to sew the peritoneum over the stump in every case.

FIBRO-MYOMA OF THE UTERUS WITH SARCOMATOUS DEGENERATION.

Shown by Dr. Peter Horrocks.

Dr. Peter Horrocks showed a uterus and tumour removed by abdominal hysterectomy. The lady, a patient of Dr. Cock of Peckham, was 66 years of age. At the time of operation some difficulty was experienced in getting the tumour out of the pelvis, owing apparently to the sarcomatous growth pinning it down to the bottom of the pelvis. There was some hæmorrhage from the parts from which it was forcibly separated. She made a good

recovery, and was at the present time, two months or more after the operation, in good health. The interest of the case was rather pathological. Some said that a fibro-myoma of the uterus might become sarcomatous. In fact, Mr. Doran had shown a specimen at the Pathological Society of such a tumour undergoing sarcomatous degeneration, and he was under the impression that Mr. Doran had then thought that the muscular fibres themselves underwent this change. Now, whilst believing that in a few rare cases fibro-myomata of the uterus did become sarcomatous, he believed that it was the connective tissue of the fibro-myomata that became affected, at all events primarily. In other words, a fibro-myoma might become sarcomatous just as the uterine wall might, but precisely in the same way, and that there was no such thing as sarcomatous degeneration of the muscular fibres of a fibro-myoma except by extension from the connective tissue.

Mr. Doran, in reference to his case of myoma of the uterus becoming sarcomatous, published in the forty-first volume of the 'Transactions of the Pathological Society,' observed that he could not find any indication of the precise origin of the sarcoma cells. Since there was much connective tissue in many uterine myomata it was hard to deny that sarcoma probably developed from that tissue, but he endeavoured to show in his report that sarcoma cells might actually replace plain muscle cells arising from the same elements. When the growth of such a tumour has much advanced the origin of its malignant elements can hardly be traced by the microscope.

HÆMORRHAGE FROM THE FALLOPIAN TUBE WITHOUT EVIDENCE OF TUBAL GESTATION.

Shown by Alban Doran, F.R.C.S.

The presence of blood in the peritoneal cavity of a woman is a matter of high importance, not only from a clinical standpoint, but also for medico-legal reasons. The very mention of this condition suggests extra-uterine pregnancy. Experience has shown that, putting aside accidents in uterine pregnancy and parturition, that abnormal form of gestation is almost invariably the cause of the hæmorrhage. Are there any exceptions? I believe that there are, and that this specimen may be classed amongst them. Hence I may be pardoned for dwelling on the appearances which it presents at some length.

A. C—, aged 25, was admitted into the Samaritan Free Hospital on November 4th, 1897. She was well nourished but markedly anæmic. Two and a half years ago she was married, and had only once been pregnant, miscarrying at the third month in May, 1896. Menstruation was never regular, the flow varying greatly in amount. Twelve weeks before admission severe bearing-down pains set in, with free show which could not be checked. On October 6th Dr. Frederic McCann saw her for the first time, and detected a mass in the right fornix. No history of the passage of any structure like a decidua could be obtained.

The patient was sent into my wards because the mass had distinctly increased in size since October 6th. I found no changes characteristic of pregnancy. There was an elastic and distinctly tender mass in the right fornix. The uterus was hardly enlarged, and lay in its

normal axis. I would not, under the circumstances, pass a sound. There was much sanious discharge from the os. The pulse was 84, regular and small; the temperature remained normal between November 4th and 13th. The urine, drawn off with the catheter to avoid the blood which constantly oozed from the os uteri, was almost colourless, very acid, sp. gr. 1006, and free from albumen and excess of phosphates. The patient had never been laid up with severe illness, and after the miscarriage in May, 1896, she kept her bed for a fortnight and recovered completely, so that she had evidently not neglected herself.

A week's rest produced no effect whatever on the local condition. The tenderness was noteworthy, as the sequel showed that the mass was a nerveless structure, so that it was its surroundings that were tender.

On November 13th, 1897, I made an exploratory incision, the patient being placed in Trendelenburg's position. I saw a mass of small intestine adherent to something to the right of and behind the uterus. On freeing the gut I exposed a reddish-brown solid mass, into which the right Fallopian tube appeared to run. Posteriorly the mass adhered to the sigmoid flexure and rectum. I passed my hand carefully under the mass, and succeeded in drawing it up with the tube and ovary; they were then removed together. The left ovary was large and succulent, as usual in a healthy young woman, the left tube quite normal. There was no sign of any effusion of blood into the peritoneal cavity beyond the mass, or into the parametrium. Convalescence proceeded steadily, and the patient was quite strong when she left the hospital.

I sent the right tube and ovary and the attached tumour, now exhibited, to the College of Surgeons. On cutting open the tumour it appeared to consist of clot. A section was made close to its attachment to the fimbriæ of the tube, including tubal tissue. Under the microscope no chorionic villi nor decidual cells could be found.

The tumour, as now seen, forms a pyramidal mass with

convex surfaces. The apex is firmly incorporated with the fimbriæ of the tube above the ostium; the base measures 2½ inches. The interior appears on section as solid coagulum, old and firm towards the base, soft and recent at the apex, which lies close to the tubal ostium. The fimbriæ of the tube are normal, the canal shows no sign of dilatation or inflammation, and the ostium is not dilated. The mesosalpinx is perfectly free from any abnormal condition. The ovary is large, two inches in vertical and an inch and a half in transverse diameter. On its cut surface are several follicles about an eighth of an inch in diameter, full of half-decolourised clot, but I could not find a corpus luteum. (Fig. 1.)

The most positive feature in this case is the hæmorrhage from the tube, self-evident after a glance at the specimen. This accident is usually the result of tubal gestation. In this case there was no positive clinical evidence of gestation. The irregularity of the catamenia, which had been present for years, greatly obscured diagnosis. Intra-uterine pregnancy ending in very early abortion was possible, but could not be proved; no decidua was ever detected, nor was there evidence of enlargement of the uterus. Early tubal gestation was at once suggested by the hæmorrhage. But the tube looked absolutely normal. Many months after a tubal abortion a tube might conceivably undergo perfect involution. In this instance the local disturbance was quite recent, yet the tube appeared healthy as it lay in the pelvis, and was proved healthy when examined after removal. Above all, the ostium was not dilated. Again, as the ostium was as free from any sign of obstruction as it was free from any trace of dilatation, the question of hæmatosalpinx ("sactosalpinx hæmorrhagica," as Martin and Orthmann call it) is precluded.

Whence then came the blood? Was it an exudation from the surface of a congested mucous membrane, or was it the result of uterine hæmorrhage passing into the tube instead of into the vagina?

DESCRIPTION OF PLATE V.

FIG. 1.—Hæmorrhage from the Fallopian tube without evidence of tubal gestation.

FIG. 2.—Hæmorrhage into the Fallopian tube and uterus (St. Barth. Hosp. Mus., No. 2934A), showing the clot in the tube protruding from the ostium owing to the action of spirit on the tubal walls after death.

(Inscriptions intended to be placed under Figs. 1 and 2, Pl. V, p. 182, 'Trans. Obst. Soc.,' vol. xl, 1898, pt. 2.)

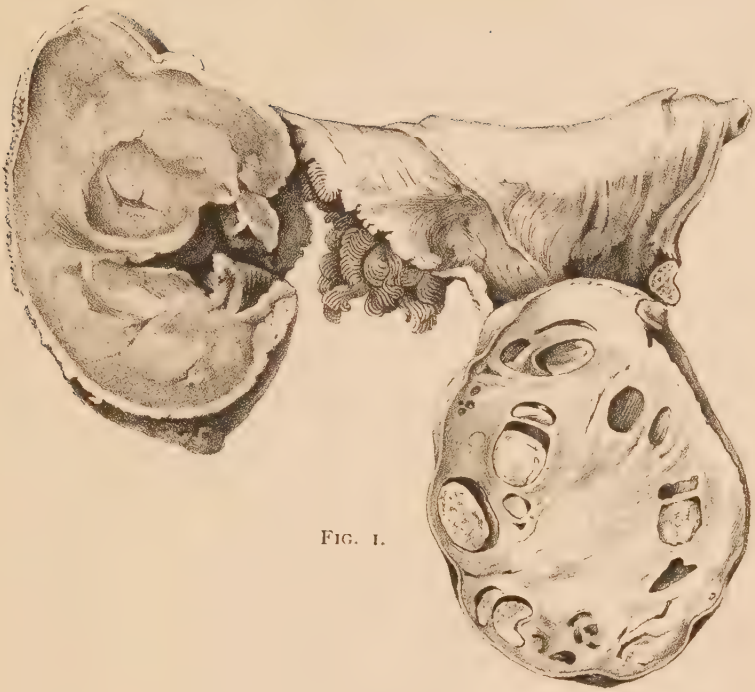

FIG. 1.

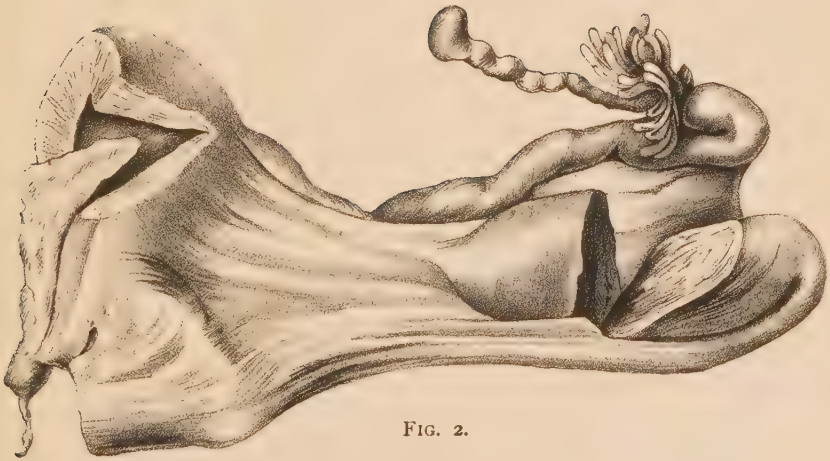

FIG. 2.

HÆMORRHAGE FROM THE FALLOPIAN TUBES WITHOUT EVIDENCE OF EXTRA-UTERINE GESTATION. (ALBAN DORAN.)

Bale, Sons & Danielsson, Ltd., Lith.

I must admit that I am very suspicious of alleged cases of hæmorrhage from the tube into the peritoneum not due to ectopic gestation. On the ground of accurate observation modern teaching encourages that suspicion. To take the opinion of two distinguished teachers who have issued treatises within the present year, we find that our old president, Dr. Herman, says, "I am not satisfied that there is such a condition as metrorrhagic hæmatocele, meaning by that, hæmorrhage from the uterus escaping by the Fallopian tube into the peritoneum. I think that cases appearing to be such are either tubal gestation, or cases of hæmorrhage from the tube itself of unknown causation."*

Labadie-Lagrave insists on the very valid objections to Bernutz and Guérin's theory of reflux of blood into the peritoneum from the uterus. Trousseau and Fernerly traced hæmorrhage out of the ostium to a kind of epistaxis, an abnormal increase of anatomical oozing. Labadie-Lagrave attaches no importance to this hypothesis.†

The earlier theories were very plausible, menorrhagia from the tube or epistaxis sounding quite natural, but they were advanced before the days when the microscope was made to reveal chorionic villi in clots.

Yet, though it is admitted that the great majority of cases of hæmatosalpinx are due to tubal gestation, and that nearly all cases of hæmorrhage from the ostium signify tubal abortion, exceptional conditions are possible. I made use of the term "epistaxis" above. Dr. Walter Griffith showed us here ten years ago the internal organs from a single nulliparous girl, aged 18, who died from uncontrollable epistaxis and menorrhagia.‡ The uterine

* 'Diseases of Women,' 1898, p. 308.

† Labadie-Lagrave et F. Legueu, 'Traité Médico-Chirurgical de Gynécologie,' 1898, pp. 1119, 1120, and 1122.

‡ "Hæmatoma and Hæmatosalpinx," 'Trans. Obstet. Soc.,' vol. xxix, p. 397. The specimen is in the museum, St. Bartholomew's Hospital, Path. Series, No. 2934A. The next specimen, No. 2934B, is very similar. A tri-

cavity contained a blood-clot which extended along the Fallopian tubes, and on the right side projected beyond the fimbriated extremity. As the patient was a young nulliparous girl, the tube was much smaller and less developed than in the example which I exhibit this evening. (Fig. 2.)

In the catalogue of specimens in the museum of St. Bartholomew's Hospital * there is an important piece of evidence not included in Dr. Griffith's original report :

"This projection of the clot (beyond the fimbriated extremity) is due to the narrowing of the calibre (of the tube) owing to the action of the spirit, *as it did not occur in the fresh specimen.*"

On examining the specimen I find that a vermiform clot, about two inches long, hangs out of the ostium. Even if it had protruded from the tube before death, it would in no way have resembled the large clot seen in the example of tubal hæmorrhage which I exhibit this evening. Again, with the kind permission of Dr. Calvert I have been able to look up the original report of the case from which Dr. Griffith's specimen was taken, and find that the peritoneum is reported as "normal," and it is clear that not a drop of blood escaped into its cavity.†

This fact is really admitted by Dr. Griffith, for though he does not state that the clot hanging from the ostium was squeezed out after death by the action of spirit, he remarks quite reasonably that "there was no hæmatocele in this case, but a little more hæmorrhage would have caused one." In short, his case clearly shows that there

angular clot occupies the uterus and extends into both tubes. The patient, a virgin aged 20, died of uterine hæmorrhage. See 'St. Bart.'s Hosp. Rep.,' vol. xxv, 1889, p. 334.

* This specimen is described under "Specimens added to the Museum," in the 'St. Bart.'s Hosp. Rep.,' vol. xxii, 1886, p. 399; also 'Catalogue of Museum: Addenda,' pt. 5, No. 2934A.

† 'St. Bartholomew's Hospital Register Book of Complete Cases,' vol. xii, folio 10. The stomach and intestines are also reported "normal." There was no visible disease of the internal organs except the hæmorrhage. Dr. Griffith (loc. cit.) states that no history of hæmophilia could be obtained.

can be blood in a tube which is not the seat of an abnormal pregnancy, and should the ostium remain open, that blood might easily be poured into the peritoneal cavity.

I admit that such a condition must be very rare, but the above observations suggest that it is possible. Our President* has admitted that "the time has not yet arrived for drawing a hard and fast line between blood effusions into the tube caused by tubal pregnancy, and such effusions due to other causes." The main explanation is that the effusions are very rarely due to other causes. I have endeavoured to show that this case appears to be one of those rare exceptions. It may be reasonably suspected that some of the blood which issued from the uterus as the result of some local condition other than gestation was forced not into the vagina, but along the tube and out of the ostium.

With reference to the question of hæmorrhage from the oviduct otherwise than from tubal gestation, Dr. Heywood Smith narrated the following case. On Sunday week he was called to a child aged 15, who was taken with sudden pain in the lower abdomen in church. The next morning he examined the abdomen, and found a hard tender lump above the right inguinal region. The girl had never menstruated, and he thought it might be either appendicitis or some ovarian trouble. As the abdomen became more swollen and tender, and the temperature and pulse were rising, he sent her into the Middlesex Hospital. On Friday (29th) she was operated upon, when there was found a quantity of dark viscid blood in the right pelvic fossa, and further examination revealed an imperforate hymen, the vagina and uterus being filled with similar fluid, so that the attack was a menstrual molimen with retrogression of the fluid from the uterus along the oviduct and out at its fimbriated extremity. The child was doing well.

The President said that the case brought forward by Mr. Doran was of great interest to him, for it well illustrated the conclusions at which he himself had arrived after a careful and critical inquiry into the ætiology of these hæmorrhagic effusions.

* Cullingworth, "Effusions of Blood into the Fallopian Tube," 'St. Thomas's Hosp. Rep.,' vol. xxi, 1893, p. 23. When the ostium is closed he speaks of the condition as "hæmatosalpinx," whatever the cause may be.

The paper in the 'St. Thomas's Hospital Reports' (1893), to which Mr. Doran had made kind reference, was based on seventeen cases, all verified by operation. In three out of the seventeen the hæmatosalpinx was *not* the direct result of tubal gestation. In the remaining fourteen there was no such decided negative evidence. The probabilities were, indeed, in favour of tubal gestation being the source of the effusion in all of them; but there was a considerable proportion in which the most careful examination by one of the most competent of living pathologists, Mr. Shattock, failed to discover any microscopic evidence of the presence of chorionic villi or other undoubted products of conception. In his (the President's) opinion Mr. Bland Sutton had gone somewhat further than the facts of clinical experience warranted, when he stated that in *every* case of blood effusion in the tube due to tubal gestation chorionic villi could be found if carefully looked for.

In regard to the remark made by Mr. Doran as to the negative evidence afforded by the absence of dilatation of the tube, he related the following particulars of a case that had recently occurred in his own practice, where the clinical evidence in favour of tubal gestation was very strong, notwithstanding that the calibre of the suspected tube was normal.

Ten days ago, in obedience to a telegraphic summons, he had visited what was described as a serious abdominal case, with a practitioner a few miles out of London. The patient was a married lady aged 27, the mother of one child five months of age. She had last menstruated seven weeks previously, and had been in perfect health up to the evening before, when she felt a little unwell. At half past eight in the morning of the day I saw her she had been seized, on re-assuming the erect posture after the act of micturition, with severe pain in the right iliac region. She went back to bed, and quickly became very alarmingly ill. On the doctor's arrival at 11.30 a.m. she was already in a state of collapse, quite conscious, but in very severe pain, and with a pale cold surface and imperceptible pulse. Morphia was administered and relief given to the pain, but otherwise the condition did not improve. The abdomen was extremely tender, but not swollen. Examination by the vagina gave negative results. At one o'clock the pulse had become imperceptible. It was then that the telegram was sent. The consultation took place at four o'clock in the afternoon. The pulse was still imperceptible at the wrist. The diagnosis was ruptured tubal gestation, and the question arose whether the abdomen should be opened at once, or operation delayed in hopes that the condition might improve. He decided that the risk of waiting would be greater than that of immediate operation. The doctors in attendance acquiesced, and the consent of the patient and her friends having been obtained arrangements for

immediate operation were quickly made. At 5.30 the patient was anæsthetised and the abdomen opened. Two and a half pints of blood were found in the peritoneal cavity. There was no evidence of even an attempt at adhesion either in the pelvis or elsewhere, and no abnormal swelling was present on either side of the slightly enlarged uterus. The right Fallopian tube and right ovary were quickly brought into view, and on the upper surface of the tube close to its uterine end was what appeared to be a ragged rent, with a fragment of tissue or pale blood-clot lying in it. This was removed and set aside for examination. *The tube was of normal calibre*, and the part (about 4 inches in length) external to the rent appeared perfectly healthy. The ovary also had an absolutely normal appearance. The right tube was divided at a point between the rent and the uterus and removed. The left appendages were examined and found perfectly healthy. The effused blood, partly fluid and partly consisting of dark soft clot, was removed from the pelvis by the hand with a very little help from a sponge, and the incision, three inches in length, was closed. The patient was still pulseless when put back to bed, but otherwise was not in worse condition than before the operation. Strychnia was injected and warmth applied to the extremities. In the course of the evening she gradually rallied; the pulse returned after having been imperceptible altogether for six hours, and the patient had so far made an uninterrupted recovery. On the fourth, fifth, and sixth days she passed portions of thick (decidual ?) membrane *per vaginam*. A curious fact, however, remained to be told. The portion of tube removed was carefully examined by Dr. A. F. Stabb and Dr. L. Jenner, and was reported by them to present no evidence of rupture. It was, to all appearance, both externally and internally perfectly normal. He (the President) could only explain this by supposing that the seat of rupture was just internal to the place at which the tube was divided, and so had been left in the stump. The point he wished to emphasise was the normal calibre of the tube.*

The case was of course not exactly parallel with Mr. Doran's, but if he was right in regarding this as an instance of ruptured tubal gestation, and in spite of the pathologist's report, he was unable to conceive of any other way of explaining the phenomena presented. There was here a tube that had contained a gestation sac, and that within a few hours of rupture had assumed its normal calibre.

He regretted having taken up so much of the time of the

* Since these remarks were made the portion of tissue found adhering to the edges of the rent has been examined microscopically, and *chorionic villi have been found in abundance.* This, of course, settles the question of tubal gestation in the affirmative.—C. J. C.

meeting, but trusted that the various interesting points that the case presented would be accepted as some, if not as a sufficient justification.

Mr. Doran in reply observed that Mr. Bland Sutton so often found chorionic villi in clots from tubes, that he naturally believed that when not found they might have been destroyed or overlooked. On the other hand, Walter of Giessen had given us reason to suppose that small fragments of fibrin in clots from a hæmatosalpinx have been taken for chorionic villi. In the President's case of hæmorrhage in one tube, where its fellow was the seat of a fœtal sac, the blood might have arisen from the latter and passed through the uterus into the opposite tube. Dr. Heywood Smith's case was seemingly an instance of hæmorrhage from the ostium due to atresia, hæmatoceles, and hæmatometra. In Dr. Griffith's case there was uterine hæmorrhage in a young girl where the vagina was not closed, some of the blood entered the tube. The President's case of free intra-peritoneal hæmorrhage from the tube was like Mr. Doran's if, as Mr. Stabb made out, there was no rupture of the tubal wall; but in Mr. Doran's no decidual membrane was passed, nor at the operation or afterwards was there any suspicion of rupture of the tube.

A CASE OF PRIMARY CARCINOMA OF THE FALLOPIAN TUBE.

By C. Hubert Roberts, M.D., F.R.C.S., M.R.C.P.,

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(Received February 12th, 1898.)

(*Abstract.*)

Female æt. 43. No children, no miscarriages. Married seven years. Well till March, 1896; then violent attack of abdominal pain and discharge *per vaginam*. Another attack, July, 1896. A third, November, 1896. Watery gushes of fluid noted.

Out-patient, Samaritan Hospital, Mr. Butler-Smythe, November, 1896. Admitted in-patient, Mr. Meredith, February, 1897. Diseased appendages on the right, ? pyosalpinx. Operation necessary.

Condition.—Thin.

Local.—Uterus displaced to left by mass in right fornix, fixed, not tender; size hen's egg; watery vaginal discharge.

Operation.—February 24th, 1897. Right tube enlarged = Bologna sausage, and removed; full of papillomatous-looking growth. Ovary healthy. Left appendix inflamed and removed.

Specimen, and sections and drawings = primary carcinoma of right Fallopian tube.

Remarks.—Reference to published cases.

Treatment and prognosis.

Owing to the extreme rarity of primary carcinoma of the Fallopian tubes, the following case may be of interest.

H. R—, aged 43, was admitted to the Samaritan Hospital, February 10th, 1897, under the care of Mr. Meredith.

She had been married seven years. No children, no miscarriages; catamenia began at sixteen, regular in duration—three to four days; loss average, no pain. During the last twelve months periods were more frequent.

Patient had been in fairly good health up to March, 1896, when she was seized with coldness and shivering; next morning there was much pain in the lower abdomen. No doctor was sent for, but the patient treated herself for a week till the pain left her, but a thick profuse "yellow" discharge from the vagina took its place. She saw a doctor later, who treated her for leucorrhœa. The yellow discharge soon after became thin and watery, but was not foul.

In July, 1896, there was a second attack of violent pain all over the abdomen; this lasted two hours, and was said to be acute indigestion. The watery discharge was again noticed.

In November, 1896, she had a third "attack," which was very acute, and lasted three to four days. Since then there has been no pain. With each attack of pain patient has noticed she has had watery discharges from the vagina; these seemed to follow the attacks of pain in the abdomen. She has not noticed any tumour.

Since November, 1896, she has had no further attacks. In November, 1896, she came under the care of Mr. Butler-Smythe in the out-patient department of the Samaritan Hospital, in consequence of excessive vaginal discharge and general debility. She was under Mr. Butler-Smythe up to February, 1897; her general health improved, but the discharge did not lessen, and there was some general enlargement of the appendages, which did

not improve. Consequently she was admitted as an in-patient in February, 1897. After admission the discharge did not cease, and though it varied from time to time it was always thin and watery, and sometimes blood-stained. No large gushes of fluid were noted.

Patient had been losing flesh slightly, especially about the face and neck. Her general health was about the same, but she had "fainting attacks."

Except for the three occasions above mentioned there has never been any marked pain or tenderness in the abdomen or pelvis.

General condition on admission.—Patient rather thin and pale-looking. Tongue coated. Constipation troublesome. Chest, heart, and lungs normal. Pulse 72, temp. 99°, resp. 20. Slight œdema of the ankles. Urine turbid, no pus, sp. gr. 1014, acid; contains slight trace of albumen, and a few epithelial cells.

Abdominal examination.—Right kidney mobile. No abdominal tumour. No tenderness anywhere on pressure.

On vaginal examination the cervix was healthy, but displaced to the left by a hard irregular swelling occupying the right fornix, which seemed more or less closely connected with the uterus, and to occupy the right side of Douglas's pouch. It was almost immoveable and painless. Its outline suggested a tube, but it could not be well defined. The left fornix was healthy. The uterus was not enlarged, sound passed 2½ inches. The uterus was anteverted.

On bimanual examination the swelling to the right of the uterus could not be pushed up to be thoroughly examined by the external hand. It appeared to be the size of a hen's egg, and was not elastic. There was a watery discharge in the vagina, but none was observed coming from the cervix. The uterus itself had lost some of its mobility.

Operation was decided on, and took place on February 24th, 1897. Mr. Meredith performed the operation and I assisted him. Duration of operation = 1½ hours. The

anæsthetic was chloroform. The abdomen was opened, and a swelling which proved to be the right tube, equal in girth to a Bologna sausage, was found firmly fixed in the bottom of Douglas's pouch by close adhesion to the pelvic wall at the back of the right broad ligament and posterior surface of the uterus.

After gradually separating these, in addition to several bands of omentum, it was found impossible to raise the mass, owing to a very tight band of omental adhesion to the outer extremity of the tube. This was finally brought into view and secured by transfixion before division. The tube could now be brought up sufficiently to deal with the pedicle, which was secured close to the uterus by transfixion, and tied before division. The ovary was small and cystic, and was removed together with the tube. The left appendages were very adherent, the tube closed and inflamed, but the ovary was not enlarged. The left appendages were removed, both as a precautionary measure and in view of the patient's age.

The cavity of the peritoneum was flushed out with sterilised water, and the abdomen left full. The incision was closed in the ordinary way. There was no drainage used.

Pathology.—On cutting into the enlarged right tube, which up to the present time had been thought to be a pyosalpinx, it was found to contain a villous or papillomatous-looking growth which entirely filled and distended the lumen of the tube with the exception of one inch of its uterine extremity, which was patent, and quite free from growth.

The fimbriated extremity was closed, but amid the adhesions externally the fimbriæ could still be made out.

The papillomatous condition involved the whole of the lumen of the distended tube, and broke down easily under the finger. Everywhere the growth was sessile, and in parts the wall of the tube was thickened and evidently infiltrated with the same growth, but it had not spread to the exterior, nor was the ovary involved. The same

serous watery fluid was found in the tube as that described by the patient as being passed *per vaginam.*

There did not appear to be any involvement of the surrounding peritoneum or glands, nor was there any free peritoneal fluid. The condition was recognised as papilloma or carcinoma of the Fallopian tube, and Mr. Meredith said that "the periodical sanious and watery discharges *per vaginam* should have suggested papilloma," though the condition was not diagnosed before operation.

The left tube, though inflamed and closed, did not contain any growth; the left ovary was small and cystic.

Subsequently the patient did perfectly well, and was discharged from the hospital on the 13th March, 1897.

She came to show herself in January, 1898, and was then quite well.

Mr. Meredith kindly gave me the specimen, and allowed me to use the notes of the case which I now publish.

The right tube has since been carefully examined and drawn, and the preparation is in the museum of St. Bartholomew's Hospital, No. 29,389, where it is described as "a specimen obtained by operation from a woman æt. 43 years," and shows a malignant growth which had sprung from the wall of the right Fallopian tube. The latter has been laid open, and is seen to be filled by a papillomatous growth which microscopically proved to be a columnar-celled carcinoma. The specimen is an instance of primary carcinoma of the Fallopian tube (for Histological Records see slides xlii, 29,389).

Dr. Kanthack kindly examined the sections for me very carefully, and reports that it is an undoubted carcinoma.

The sections show a very advanced papillomatous condition which springs from the wall of the tube. The normal plicæ are very much exaggerated and their contour lost; the epithelium consists of large columnar cells of irregular shape, and the deeper layers and walls of the tube are involved by similar irregular clusters of carcinomatous cells gathered in irregular lacunæ and spread-

ing into the connective tissue beneath; there are degenerative changes in the superficial portions of the growth.

The involvement of the deeper portions of the tissues by the carcinomatous cells is everywhere evident.

The growth is limited strictly to the tube itself, which is generally affected.

Remarks.—"Primary cancer" of the Fallopian tube is sufficiently rare to justify a report of every case.

There is no doubt that such cases occur, though up to quite lately most cases were quoted as "secondary."

An excellent account of this condition by Mr. Alban Doran, with a complete bibliography, will be found in Allbutt and Playfair's 'System of Gynæcology,' pp. 812 *et seq.*, to which I refer the reader. Apparently two forms may be recognised:

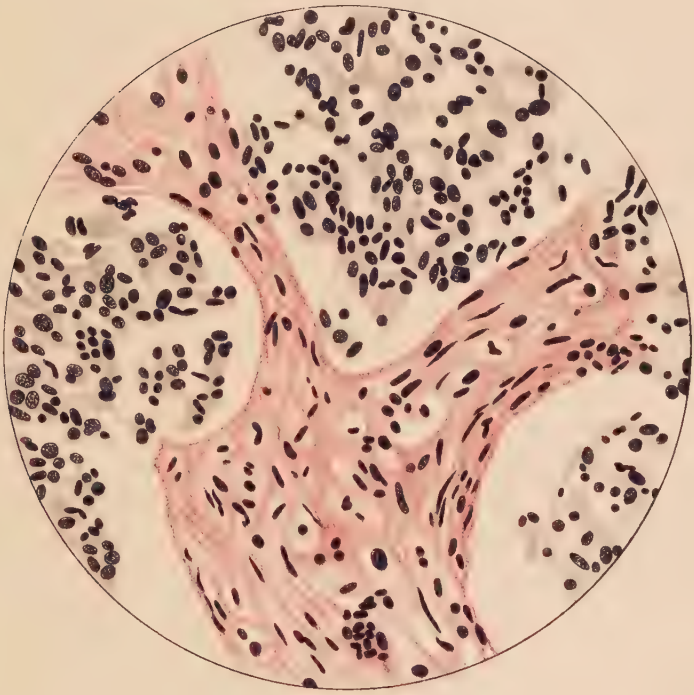
(*a*) Carcinoma developing in the mucous membrane of a normally formed tube.

(*b*) Developing in a tube which is malformed, bearing a cyst not connected with the ovary into which the ostium opens.

The case quoted above seems to be an instance of the first variety, and difficult as it is to distinguish papilloma from carcinoma, after the most careful examination I have come to the conclusion that the case is undoubtedly carcinomatous, and I have also the more valuable testimony of Dr. Kanthack.

I am not able to state whether such carcinoma developed from a papilloma, but there seems to be evidence in her history of chronic inflammation, a point which Doran insists on; in fact, the diagnosis was that of a distended inflamed tube before operation, and even when the abdomen was opened and the tube exposed it was believed to contain pus. In recorded cases this has frequently happened. The age of the patient is another point (forty-three years), as primary cancer is unknown in youth; in fact, "when a patient who has reached her forty-first year, and has been subject to pelvic inflammation, shows a sudden or steady aggravation of subjec-

PRIMARY CARCINOMA OF FALLOPIAN TUBE. (ROBERTS.)



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tive and objective symptoms, cancer may be suspected" (Doran).

The most marked features in the above case were the repeated discharges of sanious fluid *per vaginam*, three distinct attacks being noted by the patient. First she had attacks of pain, which were followed by these watery gushes. The so-called hydrops tubæ profluens, with gushes of profluent tubal discharge, has also been noted in papilloma of the tube, congenital tubo-ovarian cysts, and simple hydrosalpinx. It is certainly a symptom worth noting in such cases, and may help in the diagnosis.

I presume the attacks of pain in this case were due to the accumulation of the discharge distending the tubes, the tension increasing till the uterine end of the tube was opened up, allowing its escape. But besides this the patient had a more or less continuous watery discharge, which, I take it, leaked away from the tube.

On section of the diseased tube in this case it almost exactly resembled Mr. Doran's picture in Prof. Clifford Allbutt's 'System,' p. 814, the whole lumen of the tube being filled with cancerous growth springing from the inner surface of the tube; but in my specimen the ovary and broad ligament were not involved, though the muscular coat of the tube certainly was. I would refer my readers to Mr. Doran's tables in Allbutt and Playfair's book.

Of the second class of case, viz. cancer occurring in a malformed tube bearing a cyst into which the ostium opens, there are very few authentic cases on record, though Martin, Essex Wynter, and Routier report cases of this kind.

Dr. Cullingworth's (No. 11, Doran's series) case was one of primary cancer of the tube, which was lying on the surface of a cystic ovary.

Sarcoma of the tube, *i. e.* primary sarcoma, is said to occur, but at present it is a subject highly obscure, whilst deciduoma malignum of the tube appears to be still more so.

There is no doubt that the greatest care should be

taken to report most accurately all cases of malignant disease of the Fallopian tubes, and that a detailed examination of their histological and pathological conditions should be made to guide us to a more thorough knowledge of this obscure condition.

Treatment.—There is no doubt that there is but one treatment, viz. removal, the great difficulty being the question of diagnosis. Even in papilloma removal should be undertaken.

In this case the patient reported herself well in January of this year (1898), but she was not examined.

I should like to point out that the abdomen was purposely left full of sterilised water after the operation, and I think many patients find great comfort from this subsequently. It is a practice Mr. Meredith frequently pursues.

The ultimate prognosis of such cases is uncertain, but in face of published statistics the outlook is by no means gloomy.

[*For discussion on this paper see p.* 208.]

TABLES OF CASES OF PRIMARY CANCER OF THE FALLOPIAN TUBE REPORTED UP TO PRESENT DATE (APRIL, 1898).

By Alban Doran, F.R.C.S.,

SURGEON TO THE SAMARITAN FREE HOSPITAL.

(Received April 14th, 1898.)

(*Abstract.*)

As my colleague Dr. Hubert Roberts has brought forward a valuable report of a case of primary cancer of the tube under his own observation, I think that these tables may be of interest to the Fellows of the Society, and may aid them in the study of Dr. Roberts's communication. Orthmann published the first report of a case of the disease in question just ten years since. Shortly afterwards I recorded another case, and a year later was enabled to furnish the after-history. I prepared with that after-history the first tables* of cases of this rare disease ever published. Many more examples of the malady were shortly afterwards reported. Fearn (see No. 9) was able to issue more copious tables. In 1894 Sänger and Barth as well as myself prepared simultaneously tables yet more up to date. The work of the German observers was published first, but I had the advantage of being able to add several important after-histories kindly sent to me by the original reporters or their successors (see "private correspondence" in tables, under heading "Reference"). This second series of tables prepared by myself appeared in Allbutt and Playfair's 'System of Gynæcology.' In the present tables four more complete reports are included,

* 'Trans. Path. Soc.,' vol. xl, p. 221.

whilst No. 13 (Von Rosthorn's) is tabulated from a more complete report issued since the former tables appeared in print. I have also corrected a few errors.

The latest report (No. 19) before that prepared by Dr. Roberts was read appeared recently in the 'Archiv für Gynäkologie.' Dr. Hofbauer, the reporter, declares that the patch of epithelioma *in* the cervix (its surface was smooth and healthy) was quite independent of the columnar cancer in the tubes. The original report must be carefully studied; unfortunately there seems to be no after-history.

Several operators removed the uterus with the cancerous appendages, a reasonable practice from many points of view. But the uterine end of the cancerous tube may be free from disease (No. 8, Sänger), whilst too often adjacent viscera are infected. In such cases simple removal of the diseased tube is the best surgery. Abdominal section is preferable to vaginal operations in suspected cases of this disease, as it is important to see if any other parts are involved.

I indicated the fallacies into which the pathologist may fall when examining a cancerous tube in a short note recently published in these 'Transactions.'*

I refrain from presenting tables of sarcoma of the tube to the Society, as no trustworthy cases have recently been reported. For the same reason I will say nothing about papilloma clearly not malignant.†

* "An Unreported Case of Primary Cancer of the Fallopian Tube in 1847," 'Trans. Obstet. Soc.,' vol. xxxviii, 1896, p. 322.

† Watkins (loc. cit., tables, Case 18) describes a case of non-malignant primary papilloma of the Fallopian tubes, comparing it with a malignant case (No. 18). The ovary was involved. The opposite ovary bore papillomatous growths, from which the corresponding tube was free, and it is not clear that the disease was primary in the other tube.

TABLE OF CASES.

Cases of Primary Carcinoma of the Fallopian Tube.

No.	Age, married or single.	Children; menstruation.	Side of tumour.	Chief symptoms.	Duration of symptoms before operation.	Result of operation.
1*	46, M. (3 yrs.)	Abortion (?) 1½ years before operation	R.	Tumour to right of uterus after convalescence from typhoid; then moderate leucorrhœa; encysted serous perimetritis to left	About 1½ years	Died 6th day
2	48, M.	1 (22 years); 6 months' menopause	R.	Sanious, watery discharge; perimetritis after curetting; then tumour to right of uterus	3 years	Lived 10 months 3 weeks
3	50, M.	Sterile; 6 months' menopause	R. and L.	Sanious, watery discharge; club-shaped swelling right fornix, and pain 8 weeks before operation; elastic tumour left fornix; small subperitoneal uterine myoma	4 years	Recurrence within 18 months (von Herff, Dec., 1894)
4	36, M.	Sterile; ?	L.	Hypogastric pains, fever, swelling in left side of pelvis	"For a long time"	Free from recurrence and in good health nearly 7 years after (Veit, Jan., 1895)
5	46, M.	Sterile; regular	R.	Uterus pushed to right by a left hydrosalpinx; a tumour right side of pelvis; hypogastric pain	Hypogastric pain 2 years	Recovery. Recurrence within 10 months. "The patient must have died soon afterwards"
6	46, M.	1 child; still regular	R. and L.	Free watery discharge; abdominal pain; emaciation; two tumours felt through parietes	About 9 months	"Lived for about a year and a half" (Zweifel, Dec., 1894)
7	45, S.	1 child (20 years); still regular	R. and L.	Hypogastric pain; metrorrhagia; tumour in right side pelvis; smaller to left and above uterus	1 year	Recovery. Recurrence 2 months. Death in 5 months.
8	45, M.	1 child (20 years); still regular, scanty	R.	Five months' sanious discharge; symptoms of "pan-salpingitis." Uterus dilated shortly before operation; nothing found in it	5 months	Recovery. No recurrence 7 months later

* Renaud's case (1847) is apparently genuine (as primary cancer), and if so is the earliest ever *figured*, though no full report accompanied the sketch. See 'Trans. Obstet. Soc.,' vol. xxxviii, p. 322, where the sketch is reproduced.

A. *Cancer in a naturally developed Tube.*

Character of tumour.	Other parts involved.	Operator.	Reporter and reference.
Cancerous papillomatous growths in abdominal end of tube; ostium communicated with a pus cavity	Cancerous nodules in vesico-uterine pouch; enlarged pelvic glands; large abscess of right ovary; suppuration of left tube and ovary	Martin, Berlin	Orthmann, 'Zeitschr. f. Geburtsh.,' vol. xv, p. 212.
Large, soft, cancerous mass growing from tubal walls; ostium closed; sanious serum in tubal canal	Right ovary small, cancerous; old inflammation left appendages; recurrence in stump of left appendix; secondary deposits uterus, bladder, vagina, and lumbar glands	Thornton	Doran, 'Trans. Path. Soc.,' vol. xxxix, p. 208, and vol. xl, p. 221.
Medullary masses in both tubes. Possibly innocent papilloma at date of operation	None at operation. Recurrence on both sides, chiefly left	Kaltenbach	Kaltenbach, 'Centralbl. f. Gynäk.,' 1889, p. 74; id. and Eberth, 'Zeitschr. f. Geburtsh. u. Gynäk.,' vol. xvi, 1889, p. 357; Von Herff, private correspondence, Dec., 1894.
Cancerous papillomatous masses inside pyosalpinx	No other parts involved	J. Veit	Veit, 'Zeitschr. f. Geburtsh. u. Gynäk.,' vol. xvi, 1889, p. 212; private correspondence, Jan., 1895.
Right tube contained mass of true medullary cancer (large alveoli and scanty stroma)	At operation no other parts cancerous; pint of sanious fluid in left tube, which was not removed. Ten months later hard secondary deposits in abdomen; ascites	Landau	Landau and Rheinstein, 'Archiv f. Gynäk.,' vol. xxxix, 1891, p. 273, and private communication.
Soft villous masses in dilated tubes; "carcinoma papillomatosum"	Uterus, ovaries, and adjacent parts healthy (uterus removed at the operation)	Zweife	Zweifel, 'Vorlesungen über klin. Gynäk.,' 1892, p. 139, and private correspondence.
Papillomatous cancer of tubes; cystic degeneration of ovaries and tubes	At operation right ovary involved; at death endometrium, pelvic glands, liver	Westermark	Westermark and Quensel, 'Nordiskt med. Arkiv,' vol. xxiv, 1892,† and private correspondence.
Papillomatous cancerous mass, "as big as a kidney," in outer part of tube; the uterine end of tube free from disease for an inch and a half	None; right ovary "normal except for adhesions"	Sänger	Sänger, Martin's 'Krankheiten der Eileiter,' 1895, p. 253.

† Westermark's case is reported in 'Centralbl. f. Gynäk.,' vol. xvii, twice (p. 272 and p. 1197), by different writers.

No.	Age, married or single.	Children; menstruation.	Side of tumour.	Chief symptoms.	Duration of symptoms before operation.	Result of operation.
9	56, M.	Sterile; regular	R.	Sanious serous discharge; dysuria. Large tumour, feeling like a myoma, on right side	1½ years	Recovery. "Alive and free from recurrence 1 year and 7 months after operation"
10	55, ?	?	R.	Hypogastric pains; bloody discharge. Fluctuating tumour right side of pelvis, right iliac fossa, and Douglas's pouch	2 months	Recovery. Free from recurrence a year later; "afterwards lost sight of"
11	60	Sterile; menopause 52	R.	Attacks of pain right iliac fossa; nodulated swelling in hypogastrium; no discharge	4 months	Recovery. Recurrence in 6 months. Death one year after operation
12	43, S.	3 children; menorrhagia 3-weekly	R. and L.	Pain, fever, and dysuria after exertion, 19 days before operation; small hypogastric tumour developed; torsion of an ovarian pedicle suspected	?	Death 3 weeks, a few hours after second abdominal section for intestinal obstruction
13	59	? menopause at 53	R. (and L.?)	Purulent, acrid discharge; escape of pus; tumour to right like a pyosalpinx; inguinal glands enlarged	2 months	Recovery. Death 6 months later, fortnight after excision of enlarged inguinal glands
14	58, M.	1 child; menopause 12 years	R.	18 years swelling of abdomen; recently pain, ill-health, and increase in size of tumour	18 years	Incomplete operation; convalescent when report was published

Character of tumour.	Other parts involved.	Operator.	Reporter and reference.
Large sausage-shaped tube; exuberant papillomatous cancerous masses on inner walls	No other parts involved; right ovary atrophied; no trace of cancer in its substance	Leopold	Fearn, 'Arbeiten aus der königlich. Frauenklinik,' vol. ii, p. 337; Leopold, private correspondence.
Villous epitheliomatous mass springing from tubal mucosa; much clot and serum in dilated canal of tube	No evidence of any extension of cancer; uterus and opposite appendages normal	Anger	Tuffier, 'Annales de Gynécol. et d'Obst.,' vol. xlii, 1894, p. 203, and private correspondence.
Spongy mass cancer inside tube, which was obstructed at abdominal end and connected with a cystic ovarian tumour	"Evidence of infection beyond the limits of parts removable by operation;" cancer on surface of ovarian cyst. No necropsy	Cullingworth	Cullingworth and Shattock, 'Trans. Obst. Soc.,' vol. xxxvi, 1894, p. 307; private communication, and personal inspection of specimen.
Papillomatous cancer of both tubes; right "tubo-ovarian cyst" (see text)	Ovaries and uterus free from cancer. No trace of malignant disease found in abdomen after death	Warneck	Warneck, 'Nouvelles Arch. d'Obstet. et de Gynéc.,' 1895, p. 81.
Papillomatous cancer of right tube removed with entire uterus (left tube and ovary too adherent for removal); pus in tube	Inguinal and retro-peritoneal glands; left tube secondarily (?) affected after operation; it contained pus. See original report	Von Rosthorn, (vaginal extirpation of uterus and right appendages; left tube not removed)	Von Rosthorn, 'Prager Zeitschrift f. Heilkunde,' vol. xvii, 1896, p. 177.
Papillomatous cancerous mass in dilated tube, which communicated with a large ovarian cyst	No sign of cancer in opposite appendages, uterus, and peritoneum	Chrobak (uterus and appendages removed, but a piece of the ovarian cyst could not be removed, and was fixed to stump of uterus in abdominal wound)	Knauer, 'Centralbl. f. Gynäk.,' 1895, p. 574.

No.	Age, married or single.	Children; menstruation.	Side of tumour.	Chief symptoms.	Duration of symptoms before operation.	Result of operation.
15	46, M.	3 children; period 3-weekly	R. and L.	2 months amenorrhœa, then uterine hæmorrhage and hypogastric swelling, disappearing after colicky pain; free "serous leucorrhœa;" mass filling both fornices and Douglas's pouch	8 months	Recovery; 8 months after operation a mass the size of a fist in the pelvis
16	40, M.	1 abortion; regular before illness	R. and L.	Yellow discharge 7 mos.; hypogastric pain; period ceased 3 months, then came on again; oval tumour reached above umbilicus	Over 7 months	Recovery; died 7 months after operation; no necropsy
17	45, M. 20 yrs.	Sterile; period irregular; dysmenorrhœa	L.	Dysuria; pain in defæcation; hypogastric swelling; large pelvic tumour, very tender; uterus anteverted and fixed	1 month	Recovered (left appendages removed); well a few months later
18	45, M.	1 child, 23 years; pregnancy normal	R. and L.	Dysuria; pain; fluctuating mass on each side of a fibroid uterus; no discharge; high temperature	14 days	Recovery after removal of uterus and appendages; death 7 months later from recurrence
19	46, M.	3 children, last 23 years; menorrhagia 3 years	R. and L.	Leucorrhœa and pains in left iliac fossa; swellings in each lateral fornix	Over 1 year (hypogastric pains 3 years)	Recovery (?) from removal of uterus and appendages, June 2nd, 1897
20	43, M.	0	R.	Leucorrhœa after rigor (?); 4 months later abdominal pain; watery discharge; similar attack over 3 months afterwards; swelling of both fornices; free watery discharge	Over 10 months	Recovery; no recurrence detected on examination 14 months later.

Character of tumour.	Other parts involved.	Operator.	Reporter and reference.
Papillomatous cancer of tubes, which were dilated and full of serosanguineous fluid; chondrification of part of wall of left tube	No sign of cancer in adjacent organs at operation	Lebedeff	Miknoff, Péan, 'Diagnostic et Traitement des Tumeurs de l'Abdomen,' vol. iii, 1895, p. 564.
Papillomatous cancer of tubes; right tube formed a large cyst; left tube could not be removed; it was united by malignant deposit to adjacent structures	Metastatic deposits on visceral peritoneum and omentum; a little ascites	Fischel	Fischel, 'Prager med. Wochenschrift f. Heilkunde,' vol. xvi, 1895, p. 143.
Malignant papilloma of left tube; left ovary, right tube, and right ovary healthy	Adherent small intestine, possibly infected	Eckardt	Eckardt, 'Arch. f. Gynäk.,' vol. liii, 1897, p. 183.
Each tube formed a large convoluted tumour full of malignant papilloma	Intestine probably infected through "numerous firm adhesions" separated at operation	Watkins (Chicago)	Watkins, Amer. Gynec. and Obstet. Journal,' vol. xi, 1897, p. 272.
"Carcinoma villosum cylindrico-epitheliale" of both tubes; left most affected; ovaries healthy	A small area of cancer in canal of cervix, which Hofbauer declared to be independent of the tubal disease. See original	Schauta	Hofbauer, 'Archiv f. Gynäk.,' vol. iv, 1898, p. 316.
Right tube size of a Bologna sausage, full of malignant papilloma	None	Meredith	Hubert Roberts, see 'Trans. Obstet. Soc.,' present volume, p. 189.

B. *Cancer partly in Cyst*

No.	Age, married or single.	Children; menstruation.	Side of tumour.	Chief symptoms.	Duration of symptoms before operation.	Result of operation.
21	50, S.	0 (?); menopause not established	R.	Discharge of blood for a few months; hypogastric pain for 3 days before death	"Ill" 4 months	No operation
22	60, M.	Sterile; 50	L.	Abdominal swelling; escape of quantities of yellow fluid from vagina; swelling diminishing; phlebitis of left leg	2 years	Recovery from operation (Nov. 22nd, 1892); case lost sight of
23	58	1 child	?	Hypogastric inflammation 30 years before; for 18 years a stationary swelling of abdomen; 1 year hypogastric pain and cystitis; at operation cyst filled pelvis	18 years tumour; acute symptoms 1 year	Well 3 months after operation

N.B.—Incomplete cases of primary cancer of the tube, reported by Smyly,

NOTE.—Since the above tables were printed, I have found reports of two more cases, thirty-two years, sterile; menopause at forty-seven; three months' pains in left iliac fossa, ages, recovery; death from recurrence seven months. The left tube was a cyst full of Monatshefte,' June, 1897). No. 25, patient aged 45, catamenia irregular. For six diagnosed; tumour developed in left fornix. Vaginal hysterectomy, including appendages. which was recently performed (Falk, 'Deutsche med. Wochenschr.,' March 31st, 1898,

onnected with Ostium.

Character of tumour.	Other parts involved.	Operator.	Reporter and reference.
lass of medullary cancer n ostium of tube, communicating with a cyst (external to the tube and ovary) as large as an ostrich's egg; cyst seemed to communicate with cavity of tube, which was full of blood	No extension to neighbouring or distant parts	None	W. Essex Wynter, 'Trans. Path. Soc.,' vol. xlii, p. 222; and Doran, in Allbutt and Playfair's 'System of Gynæcology,' p. 821.
ancerous papilloma in walls of tube; ostium opening into a cyst as large as an adult head; ovary not found (see text)	No other parts were found involved	Routier	Routier, 'Bulletins et mémoires de la Soc. de Chirurg. de Paris,' vol. xviii, 1892, p. 73; 'Annales de Gynéc. et d'Obstet.,' vol. xxxix, 1893, p. 39, and private correspondence.
ubo-ovarian cyst with a primary cancer adjacent to it	Firm adhesion of cyst to adjacent parts; a portion was left behind	Savor	Savor, "Cystitis crouposa bei sauerem Harn," 'Wiener klin. Wochenschrift,' vol. viii, 1895, p. 775.

weifel, Westermark, Jacobson, and others, are not included in the above tables.

h by Falk of Berlin, and both come under Class A. No. 24, patient aged 53, married ious discharge, big swelling in left fornix. Vaginal hysterectomy, including appendcer; left ovary and uterus healthy. Cæcum involved in recurrence (Falk, 'Therapeut. nths serous discharge, cyst in right fornix aspirated, bloody serum escaped, cancer then mary cancer of cystic right tube discovered. The patient recovered from the operation, plement, p. 43).

Dr. Peter Horrocks pointed out that carcinoma of the cervix was common, and nearly always occurred in parous women; carcinoma of the body of the uterus was much rarer, and occurred chiefly in women who had not borne children; whilst carcinoma of the Fallopian tubes was the rarest of all, and again occurred in sterile women chiefly. He thought clinical evidence showed that tissues that were used much and were liable to damage were more prone to carcinoma than others, witnessing carcinoma of lips, tongue, œsophagus, pylorus, rectum, scrotum, cervix uteri, &c. He thought this rather favoured the idea that carcinoma was due to or in some way associated with a microbe acting as a germ or exerting possibly a spermatic influence upon the part affected. In this way one could see that such a microbe travelling along the genital canal would meet with the cervix uteri first, and if that had been damaged by one or more parturitions (split cervix, &c.), it would elect the damaged part, as it were, for its growth. But if it were a nulliparous cervix, then it might extend into the body of the uterus, and so develop there, and in still rarer cases travel along the Fallopian tube and develop there. He thought that removal of primary carcinoma from whatever part was affected was followed at the present day by a longer period of immunity than was the case formerly, and although he did not know, he had a strong impression that such increased length of time before recurrence was due to the aseptic methods now employed, whereby every vestige of the cancer was got rid of by washing, &c. He also considered that it was better to open the abdomen in cases of doubtful diagnosis, such as primary cancer of the Fallopian tube, because it was so much easier to command the vessels, to extirpate the disease, and to obtain a general survey such as could not possibly be obtained by colpotomy.

Dr. Amand Routh alluded to the difficulty of diagnosis. In Case 2 in Mr. Doran's *résumé*, which had occurred in his own practice, and in the majority of those in the table, there was usually continuous pelvic pain, coming on as an early symptom, simulating acute salpingitis with slight perimetric extension; and when this was associated with sanious, often offensive discharge, together with a tubal swelling, the diagnosis of some new growth in the tube was probable. If the additional precaution was taken to exclude the uterus from being the cause of the discharge, by a preliminary dilatation, the diagnosis could be made with fair certainty.

Dr. Addinsell drew attention to the fact that in nearly all the recorded cases the most noticeable clinical features were pain and the presence of a watery discharge, and remarked upon the importance of this last sign as an additional evidence of the patency of the uterine ostium of the Fallopian tube; and he pointed out that the presence of this discharge could not be

considered pathognomonic of either primary carcinoma of the tube or papilloma, as it occurred in some cases of hydrosalpinx, and was sometimes accompanied by pain.

Dr. Arthur Giles called attention to the unfavourable prognosis in cases of cancer of the Fallopian tube. This feature came out clearly in the excellent table compiled by Mr. Doran. Of the twenty-three cases on the list, in two no operation was done, or it was incomplete; in two the operation was fatal; in two which recovered from operation the patient was lost sight of. This left seventeen cases to furnish after results; and of these recurrence took place in ten with a fatal result, the time of recurrence averaging six to eight months after operation. Even the serious procedure of removing the uterus and both appendages appeared to be no safeguard against a return of the disease, since in one of the two cases in which this was done the patient died of recurrence in seven months. Of the seven cases reported as remaining well up to date there was only one that could be safely pronounced as cured, inasmuch as seven years had elapsed since the operation. In the others the time was too short to allow of a positive statement, the longest time being nineteen months. These considerations did not, however, affect the question of operation, inasmuch as it was impossible in most cases to arrive at a diagnosis until after the removal and examination of the tumour.

In reply to various speakers, Dr. Roberts thanked the President and Fellows for the kind way in which they had received his paper. Also he begged to thank Mr. Doran for having prepared a complete list of recorded cases which had been placed before the Society, and which greatly added to the interest of the case which Dr. Roberts reported to-night. With regard to Mr. Doran's remarks on the treatment of such cases, as to whether the whole uterus and appendages should always be removed, in the present case this was not done, as there seemed to be a margin of healthy tube between the disease and the uterus. The other tube was removed as a precautionary measure, and on account of the patient's age (forty-three). Dr. Roberts had not suggested that the watery discharge from the vagina, the so-called hydrops tubæ profluens, was pathognomonic of cancer or papilloma, but it seemed to be a symptom worth consideration. Evidently the diagnosis of cancer of the tube was a very difficult problem before the abdomen was opened. In the present case the diagnosis was that of pyosalpinx. Sterility Dr. Roberts thought was certainly another point in many of the recorded cases, as was also the age of the patient, generally in late life. Dr. Roberts's case was aged forty-three. Dr. Roberts felt that in his reply to many of the speakers he would like Mr. Doran's assistance, owing to his great experience.

Dr. Horrocks brought forward the question of irritation and multiparity in cancer of the cervix, as opposed to sterility and nulliparity in cancer of the body and tubes. But Dr. Roberts thought that the question was hardly one of sterility and nulliparity as a cause, but one of effect, viz. that it seemed from reported cases that cancer did arise in tubes subject to chronic inflammation and irritation, as in the case just reported of which the history had been read. Dr. Roberts did not feel himself qualified to suggest anything farther than Dr. Horrocks had done about the protozoon of cancer. Still, he admitted that it would be better to remove such tubes whole, and to take the strictest antiseptic precautions against local infection. As regards the point of abdominal section or vaginal section for the removal of such tubes, Dr. Roberts had no hesitation in advising the abdominal method very strongly. In the case just read the adhesions could never have been dealt with by the vaginal method, or the pedicle treated with any degree of safety whatever.

In answer to Dr. Routh the author quite agreed that diagnosis was the difficult point, and that we needed further careful research on this point. As before stated, Dr. Roberts said that in his case the diagnosis was not made till the abdomen was opened and the tube incised after removal. Nearly all cases hitherto had been diagnosed as "inflammation." Dr. Wise asked as to cancer in the family. Dr. Roberts had no special report on the subject, but he would make inquiries when he saw the patient again. He did not think it was a very grave point. Dr. Addinsell had asked with regard to the pain of such cases. In Dr. Roberts's case the report was of several attacks of pain, each preceding the escape of watery fluid *per vaginam*. He suggested that such attacks were due to the distension of the tube, which, after reaching a certain tension, escaped into the uterus, and the pain ceased. Examination of the uterine end of the tube had not discovered any abnormal dilatation. The fimbriated extremity was of course closed. Dr. Stevens had asked as to the possible origin of carcinoma and papilloma from Wolffian relics in the tubes. Dr. Roberts was of course aware of such relics, and Doran had referred to them in his article on diseases of the tubes in Clifford Allbutt's 'System of Gynæcology.' Dr. Roberts thought that evidence rather pointed to the origin of carcinoma from the mucosa of the tube in most cases, at least in those which had reached a normal development. He thought Mr. Doran more competent to answer that point. Dr. Giles had pointed out that the prognosis seemed from reported cases to be very gloomy, though Mr. Doran did not think so. Dr. Roberts thought he had hardly a sufficient number of cases to go on. His case was alive fourteen months after operation with no recurrence. She

had been carefully examined on May 4th at the Samaritan Hospital. Dr. Roberts hoped that as our methods of early diagnosis and prompt treatment improved the outlook would be better.

Mr. Alban Doran, in reply, made notice of a further case, reported by Jacobson of St. Petersburg ('La Gynécologie,' April, 1898). The patient was forty-five, there was uterine discharge and a mass in the left fornix; this mass proved to be a cancerous tube, which was removed through a vaginal incision. As in Cases 2 and 7 in the tables, the uterine end of the tube was free from cancer. The patient was sterile: let it be noted that in the tables many cases were so, whilst only three had borne so many as three children. Mr. Doran had recently operated on a woman aged 45 who had been twelve times pregnant. On March 13th she had an attack of labour-like pains; a similar seizure occurred two days later. With each pain much water escaped, till at length she was drenched as in an ordinary labour. Inflammatory symptoms set in, and a large tender mass developed in the right fornix and a smaller body on the opposite side. The symptoms suggested papilloma or cancer of the tubes, but Mr. Doran found those structures tough, tortuous, and with very thickened walls adherent to adjacent structures. The canals were not dilated. As for villi or papillæ, Kaltenbach and himself working independently had found that the earliest condition in papilloma and cancer of the tube was a villus or papilla. Primary cancer seemed commoner than papilloma of the tube, or at least the latter seemed very prone to undergo malignant degeneration. Of seven authentic cases of papilloma two had died of the operation, and one was very recent, so that they afford no evidence on that point; whilst Kaltenbach's case, taken at first for cancer (tables, No. 3), was on further microscopic examination made out as an innocent papilloma. Unfortunately the first opinion proved true, and, as Mr. Doran had found on inquiry, recurrence occurred. On the other hand, the earliest recorded case of papilloma (Spencer Wells and Bickersteth) exhibited the gravest clinical symptoms when the tumour was removed in 1879, but the patient was alive and well in 1897. These facts show the extreme importance of seeking for after-histories when the report is incomplete, and Mr. Doran had freely communicated with the authors of cases on that account. He agreed with Dr. Stevens that cancer of the tube might arise from tubular Wolffian relics, such as von Recklinghausen had detected even in healthy tubal walls ('Die Adenoma der Uterus,' &c., 1896). This theory seemed to account for the tubular structure which Mr. Doran had detected and figured in a section from No. 2 in the tables ('Trans. Path. Soc.,' vol. xxxix, pl. xiv, fig. 3, and Playfair's 'System of Gynæcology,' fig. 2, p. 815). The surgery of the disease in question was important. Mr. Meredith

was right in removing the opposite tube, as the disorder sometimes proved to be bilateral. Removal of the tube alone through a vaginal incision was questionable, as the state of surrounding parts could not readily be ascertained. Panhysterectomy, including the appendages, seemed right when the disease was clearly bilateral or had already invaded the uterus. Watkins (18) had adopted this course, but in his case the uterus was myomatous, and Schauta (19) removed the uterus as well as the appendages because that organ was the seat of cancer in the cervix, independent, according to Hofbauer, of the cancer in the tubes. But the uterine end of the tube was free from cancer in many cases (2 and 8, for instance), whilst the outer end usually adhered to adjacent structures which were speedily infected. Hysterectomy in such cases involved useless dangers. Careful and thorough removal of the diseased tube was usually the only course open to the surgeon. The commonest error of diagnosis *after* operation occurred when cancer from an ovary invaded a dilated and obstructed tube.

JUNE 1st, 1898.

C. J. Cullingworth, M.D., President, in the Chair.

Present—39 Fellows and 3 visitors.

Books were presented by the Society of the New York Hospital and Dr. Purefoy.

Sidney Herbert Snell, M.D., B.S.Lond., was admitted a Fellow of the Society.

Charles Robert Watson, M.D.Brux. (Tunbridge Wells), was declared admitted.

Report of Committee on Dr. Macnaughton-Jones's Specimen of Tumour of the Ovary, shown April 6th, 1898.

The growth measures $2\frac{1}{2} \times 2$ inches, and is situated in the substance of the ovary at its outer end, with the ovarian capsule stretched over it. Its surface is smooth and nodular, and on section the cut surface has the general appearance of a fibro-myoma. The part of the ovary not involved in the growth appears to be normal, and contains a corpus luteum.

On microscopic examination the tumour consists chiefly of well-developed fibrous tissue arranged in intersecting bundles. Sections taken from different parts all show, in

addition, numerous widely distributed, well-defined spaces, filled with epithelial cells. These spaces are irregularly oval or elongated, occasionally branching, and show no lumen. There is no sign of invasion of the surrounding fibrous tissue by the epithelial cells, and no small-celled infiltration. The stroma immediately surrounding some of the spaces is dense and hyaline in appearance.

We are of opinion that the tumour is not malignant, and that the arrangement of the epithelium most nearly resembles that met with in some forms of adeno-fibroma of the breast. We recommend that the drawing accompanying this report be published.

H. Macnaughton-Jones.
Herbert R. Spencer.
J. H. Targett.
T. W. Eden.

BLOOD CONCRETIONS IN THE OVARY.

Shown by Alban Doran.

These bodies were taken from the right ovary of a single woman aged 43. She had a moderate-sized fibroid, which gave her trouble as she was a cook and had to stand about a great deal. As the appendages were very easily removed entire, and the growth chiefly in the fundus, I thought oöphorectomy preferable in this case to removal of the uterus. Indeed, the chief trouble was due to perimetritis; the fimbriæ of the right tube and the corresponding ovary adhered to the uterus rather firmly. The ovary contained a large blood cyst, which burst during extraction. The operation was performed on February 3rd, and the patient has done well up till the present date.

The right ovary was considerably enlarged. The collapsed blood cyst measured an inch and a half in diameter;

it has shrunken considerably since. When I examined it after operation all the fluid blood had escaped from its cavity and no semi-solid clot remained, but four solid bodies of a dark claret colour fell out. The largest was lens-shaped and a quarter of an inch in diameter, the next in size was spindle-shaped and under a quarter of an inch long, the remaining two were smaller and irregular in form. I exhibit them this evening mounted as a specimen, now belonging to the museum of the Royal College of Surgeons.

These concretions are clearly of the same character as the specimens exhibited by Dr. Hector Mackenzie at a meeting of the Pathological Society in October, 1888.* I have adopted the term which he made use of in his case, which he declared to be unique. These concretions are certainly rare, I have never detected any amongst the large number of ovaries removed in the Samaritan Hospital since 1877, so I think that they are worth exhibiting before the Society.

As in my own case, Dr. Mackenzie reports that his specimen was from a case of uterine fibroid. The Society will note with interest that Dr. Mackenzie's patient died in Dr. Gervis's wards from cardiac failure clearly due to uterine hæmorrhage, which had lasted for two years. A broad-based submucous myoma filled the uterus, and on its surface was a vascular patch, apparently the source of hæmorrhage. In my own case, however, there was practically no hæmorrhage, and only occasional menorrhagia. The myoma was certainly interstitial.

As it happens, I have been particularly careful to examine all ovaries which I have removed either with or from myomatous uteri for several years, and have never found these concretions in any other case. I also have failed to find any report of a third instance of these blood concretions in an ovary under any circumstance. A care-

* "Blood Concretions in the Ovaries," 'Path. Soc. Trans.,' vol. xl, 1889, p. 198. They are figured in Mr. Bland Sutton's 'Surgical Diseases of the Ovaries and Fallopian Tubes,' 2nd edit., 1896, fig. 14, p. 24.

ful histological examination of ovaries associated with fibroids has been reported by Papow and also by Bulius, and Labaudie-Lagrave agrees with them.*

Great proliferation of the parenchyma and cystic dilatation of the Graafian follicles takes place, so that the bulk of the ovary increases. Ultimately, these authorities declare, the follicles atrophy and disappear, sclerosis setting in around them. From my own experience I am not certain that these changes always go on in the same order.

The increase in bulk, in some of my own cases, appeared due to œdema, not proliferation, and I fancy that the follicles may atrophy from the first, never undergoing dilatation. Again, inflammatory changes are frequent in the ovaries when myoma of the uterus exists, and not rarely the tube contains septic mucus, so that when performing hysterectomy I avoid dividing the tube whenever possible. Only yesterday, May 31st, I succeeded in removing an obstructed and dilated right tube, with the ovary, without separating them from the fibroid uterus. But these inflammatory changes in the tube and ovary in cases of uterine myoma are certainly accidental.

So different is the relation of the uterine tumour to the appendages, so varying is the degree of obstruction to the vessels supplying the ovary in individual cases, that it is almost impossible to determine the true significance of these changes in the ovary or to feel sure how far they are a result of the development of the uterine growth, and how far they may, on the other hand, be an influence in its development. Hence in this matter pathology cannot as yet aid us in therapeutic treatment, nor guide us in the choice of an operation for the relief of uterine fibroid; but as this pathological question remains so obscure, all things associated with it, such as these remarkable concretions, deserve attention, as their study may end some day in lightening our darkness.

* Labaudie-Lagrave et F. Legueu, 'Traité Médico-Chirurgical de Gynécologie,' 1898, p. 846.

Mr. Bland Sutton said these blood concretions are rare; in June, 1898, he removed an ovarian cyst as big as a football from a woman thirty-five years of age. It was full of blood, due to twisting of the pedicle, which had happened probably four or five months before the operation. A large number of solid particles escaped with the blood, and the recesses of the cyst contained many of these concretions. In separating the cyst from the rectum it was necessary to leave a piece of the cyst wall; as the cyst was cut some blood, with many more concretions, escaped into the pelvis and were subsequently picked out one by one. The concretions, which numbered more than one hundred, varied in size from a split pea to a bean; some were flattened and smooth, others were irregular in shape but with smooth contours, whilst a few were irregular and rough. It was difficult to account for the formation of these concretions, or to offer any suggestion in regard to the chemical or physical conditions which would favour their formation.

Mr. Alban Doran replied that Mr. Sutton's case showed that blood concretions in the ovary were not necessarily associated with uterine myoma. They were probably, like the pill-like pellets of fat in an ovarian dermoid, due to some purely mechanical agency.

DEFORMED FŒTUS.

Shown by Dr. Burton (introduced by Dr. Boxall).

A committee consisting of Drs. Dakin, Giles, and Eden was appointed to report on this specimen.

INCARCERATED OVARIAN (DERMOID) CYST, REMOVED DURING PREGNANCY *PER VAGINAM.*

Shown by Amand Routh, M.D.

Patient was a primipara of 23, four months pregnant, who had attended Mr. Targett's Out-patient Clinique at

the Samaritan Free Hospital. When first seen by him the cyst could be pushed out of the pelvis, but now was impacted, and it was evident that labour was impossible without its removal. Mr. Targett had diagnosed the probable nature of the cyst, and had very kindly sent the patient to me with a view to vaginal ovariotomy. I did not at once coincide with this method of treatment, thinking that the inevitable drawing down of the cervix might detach some of the fœtal membranes, and lead to abortion before the vaginal wound was healed. However, on May 9th the operation was done. The posterior vaginal cul-de-sac was opened by a crucial incision, and the connective tissue was seized by long Spencer Wells forceps, and separated by the fingers till the peritoneum could be felt. The forceps were then transferred to the peritoneum, which was loosened a bit from its connections and drawn to the vulva and opened. This gave one a tube of peritoneum to work through instead of one of mucous membrane. The cyst was seized, a few flaky adhesions being separated, and it was then punctured, liquid fat coming away. It was then drawn down, and found to have a short pedicle, which could hardly be reached owing to the height of the uterine cornu. The uterus was depressed as far as possible, and a ligature applied by transfixion to the ovarian pedicle.

It will be seen that some of the cyst wall has been left, and that the inner wall has been slightly buttonholed. This was snipped off after the cyst was cut away, and will not influence the permanent recovery of the patient.

Her recovery was satisfactory, her temperature rising next day, and again on the twelfth day, to 100° F., owing to bowel disturbance.

She was allowed to get up on May 25th, and was to have left the hospital on the 31st, when without any known cause she had a rigor, and her temperature ran up to 106° F. This was probably partly neurotic, but whether as cause or effect the fœtus perished and abortion followed, the

temperature then being 104·6° F. Six hours after the temperature was normal. There was nothing visibly septic in the fœtus or its membranes.

Dr. Herbert Spencer said that in these cases the question arose as to whether the tumour should be removed during pregnancy or after labour. In Dr. Routh's case it would probably have been easy to push up the small tumour under anæsthesia. Still he had hitherto practised the immediate removal of these tumours by the abdominal route when they were found in the first half of pregnancy, owing to the well-known non-tendency to abort; but in the latter half of pregnancy he thought it better to push the tumour up and remove it after delivery; this he had done in two cases. It was probable that the interference with the uterus during the vaginal operation would render abortion more liable to occur, and in fact it had occurred in both Dr. Routh's and Dr. Robinson's cases, so that on that ground he would still prefer the abdominal route. Besides the difficulty of dealing with the pedicle by the vagina there was the danger of the ligature slipping. It was also in some cases of somewhat advanced pregnancy impossible to feel a small ovarian tumour lying behind the uterus, and thus, if the vaginal operation be performed, a tumour might easily be left in the other ovary. He should therefore continue to perform the abdominal operation, which had given him good results, all the patients recovering well, and the only case which aborted being a case of bilateral dermoid which had had several uterine hæmorrhages before the ovariotomy. He would like to hear how Dr. Routh closed the crucial incision in the vagina.

Dr. Drummond Robinson had recently had a case under his care that was in some respects similar to Dr. Routh's. This patient had a moveable tumour in Douglas's pouch. While under observation she missed two periods and thought herself pregnant. The periods, however, returned, and pregnancy was thought to be out of the question. Posterior colpotomy was performed, and the uterus was then retroverted and pulled through the vaginal wound. The tumour, which proved to be a dermoid cyst of the right ovary as large as a Tangerine orange, was easily removed intact. A few hours after the operation the patient experienced considerable pain, and a typical carneous mole was expelled. Convalescence was uneventful.

Mr. Alban Doran admitted that a dermoid ovarian cyst in a pregnant woman ought to be removed without waiting for labour, which often entailed grave complications, especially as regards the tumour. The great aim of the operator in such a case was to get the dermoid out of the abdomen entire; for

rupture of a dermoid necessitated careful cleansing of the peritoneum by methods very liable to cause abortion. He operated last June, in the presence of Dr. Amand Routh, on a woman in the fourth month of pregnancy. As dermoid ovarian tumour had been diagnosed, Mr. Doran purposely made a four-inch incision so as to get out the tumour entire. This was easily effected, as the tumour was small and he took care not to open it till after the operation. The wound was speedily closed, and the patient was delivered of a live child at term, five months later. The cyst was full of grease, hair, and spikes of bone. Mr. Doran would have objected to remove such a tumour through the vagina. Abdominal section seemed clearly the right operation under the circumstances.

In reply, Dr. Amand Routh said that he had chosen the vaginal method of operating knowing there were no strong adhesions, as the cyst had been able to be pushed up till quite recently. If he had pushed the cyst up, it could not have been reached *per vaginam*, and twisting of the pedicle might have resulted. The vaginal wound was sutured with catgut, and healed by first intention.

RUPTURED TUBAL GESTATION (AT FOURTH OR FIFTH WEEK); OPERATION; RECOVERY.

Shown by Amand Routh, M.D.

On May 9th, I was asked to see a patient of Dr. Howard Clarke's, with a presumed diagnosis of ruptured tubal gestation or ruptured ovarian cyst. On arrival at the house I was told the following history.

Mrs. L—, a tailoress, aged 29, married four years. Has had two children, the first child born eleven months after marriage, the second on May 27th, 1897. Parturition was always normal. Her catamenia began at sixteen, and were always regular.

A few days after the birth of the second child she noticed a small lump at the navel, which has increased in size. She suckled her second child till the middle of

March, when she weaned it, and states that during lactation she menstruated three times at irregular intervals.

On March 25th she seems to have had a regular though scanty period, lasting four days. She then went thirty-four days without seeing anything, and thought she might be pregnant, but as she began to lose blood on May 2nd, she had given up the idea of pregnancy. She continued to lose slightly till May 7th, when it became profuse, but no clots passed. On that day she felt severe pain in the lower abdomen. On May 8th, although in some pain, she went for a walk, but finding movement hurt her she returned and went to bed. Dr. Howard Clarke saw her next day, May 9th, and believing she was suffering from internal hæmorrhage asked me to see her.

She had been told she had an ovarian cyst, so that in addition to tubal rupture the possibility of a ruptured cyst had to be entertained.

The patient was quite conscious, in great abdominal pain, and her pulse was a very rapid-running and almost imperceptible one, and she was evidently dying of internal hæmorrhage. The abdomen was distended greatly, and there was a large umbilical hernia of bowel and omentum. No tumour could be felt. *Per vaginam* nothing definite could be detected. It was probable that her only chance was abdominal section, but she was so extremely collapsed that I am not sure that I should have advocated it if I had not been encouraged by the recital of Dr. Cullingworth's case at this Society on the previous Wednesday, when he described so graphically a case where he had successfully operated when the patient's pulse was imperceptible.

I explained to the patient and husband the position, and Dr. Clarke entirely agreed with me. We obtained the assistance of Mr. Hilliard for the anæsthetic.

We could get no nurse at once, but an old woman, the patient's mother, acted as such. Sterilised water could only be got from a small kettle, but immediate operation was essential, with all these disadvantages.

When the abdomen was opened black and bright red blood welled out, and as the woman was very stout and the uterus small, the tubes could not be at first seen; but on palpating them the right was normal, and a nodule the size of a small filbert could be felt on the left tube, near the left cornu. Believing this was the seat of rupture, I clamped it on each side by long angular Spencer-Wells forceps, and then cleared out the blood-clot. Ligatures were then applied outside these forceps, during which procedure the hæmorrhage was clearly seen to be coming from a tear on the anterior surface of the nodule. The patient was now in an extremely bad state, so I filled up the abdomen with the water from the kettle, cooled by tap water, and she somewhat revived. After suturing the abdominal wound, and I hope curing the hernia at the same time, the pulse was again very bad, so two pints of brandy and water were administered *per rectum*, and were almost at once absorbed, with most remarkably rapid improvement of the pulse. This was repeated in three hours time, and since then, with the exception of an abscess along one of the stitches, the patient has done excellently.

The following is Mr. Targett's report upon the specimen. The specimen also bears out what Mr. Taylor of Birmingham has stated, that in all cases where the tube ruptures very early, the rest of the tube is small and atrophic.

Report on Dr. Routh's Specimen of Ruptured Tubal Gestation.

The specimen consists of the Fallopian tube, ovary, and adjacent portion of the broad ligament. The ovary measures an inch in its long diameter, and contains a recent corpus luteum. There are a few thin adhesions on the convexity of the ovary, and on both aspects of the mesosalpinx.

The Fallopian tube at a spot three inches from its abdominal ostium is dilated with an oval cyst, which now measures $\frac{5}{8}$ inch in its chief diameter. The walls of this cyst are very thin and ragged, in places consisting of little more than serous membrane. The abdominal ostium is patent and not dilated; the ampulla and isthmus are also normal in appearance. A bristle can be passed along the tube into the ruptured cyst. The interior of the cyst is uneven, and has a little blood-clot attached to it. A portion of its ragged wall was removed for microscopic examination; it consisted of œdematous muscular tissue and blood-clot. The muscle fibres were enlarged, and unduly separated by œdema and small round cells. By effusion of blood-clot the muscle fibres were separated into strands near the cavity of the cyst. In this way it appeared the muscular coat of the tube had been broken up and largely destroyed, thus explaining in part the thinness of the wall of the cyst. Very little clot adhered to the interior of the cyst, but in this there were a few typical chorionic villi seen in longitudinal and transverse sections. They were surrounded by compressed fibrin, and in the vicinity of the larger villi many buds were visible, consisting of nucleated masses of protoplasm. The two layers of epithelium were recognisable on the largest villi. The histological evidence of gestation is thus assured.

J. H. Targett.

AN OVARY CONTAINING A CALCAREOUS BALL, PROBABLY A LARGE CALCIFIED CORPUS FIBROSUM.

By J. Bland Sutton.

The specimen is a left ovary and adjacent part of the mesosalpinx with the outer half of the Fallopian tube.

The ovary, shown in section, is converted into a cyst (see figure) containing clear fluid. A hard spherical mass projects from the wall of the cyst, and contains an encapsuled, lobulated piece of hard, bone-like tissue. Fragments

An ovary in section displaying a rounded calcific mass projecting from the wall of a cyst. The lower figure represents a portion of the circumference of the calcific mass which has been macerated to show its gross structure.

of this tissue were calcified, and on microscopic examination exhibited a laminar arrangement resembling the whorls found on the cut surface of a calcified uterine fibro-

myoma; here and there the earthy matter is grouped in spherules. A portion of the circumference of the hard nucleus, which has been macerated, presents the coral-like character of the calcific masses found in old uterine fibro-myomata.

This ovary was removed by cœliotomy from a single (sterile) woman 58 years of age. The hard tumour could easily be felt on vaginal examination, and was considered to be either a calcified fibro-myoma with a long stalk or an ovarian dermoid with calcified walls. Recovery was uneventful.

Mr. Alban Doran suggested that the calcified mass was originally a myoma. In Mr. Sutton's specimen there was a small ovarian cyst with the calcified structure immediately below it. Precisely the same relations were seen in Mr. Doran's case of cyst of the ovary with a true myoma attached to it, figured in the 'Edinburgh Medical Journal' for May, 1898. Myoma of the uterus was apt to calcify if its vascular supply were for long obstructed. In myoma of the ovary attached by a narrow base to a small ovarian cyst such obstruction was highly probable.

PRIMARY SARCOMA OF THE BODY OF THE UTERUS (DECIDUOMA MALIGNUM).

Shown by A. H. N. Lewers, M.D.

Dr. Lewers showed the uterus removed by vaginal hysterectomy in his case of primary sarcoma of the body of the uterus (deciduoma malignum) which formed the subject of his paper read before the Society in July, 1897, for the purpose of reporting the subsequent progress of the patient. The operation was performed on February 11th, 1897. The patient was kept under observation till June, 1897, but was then lost sight of for some time, and Dr. Lewers feared that as she did not come up to show

herself the disease had perhaps recurred. He was glad to say, however, that in answer to a letter she came up to the London Hospital on May 19th, 1898, and he examined her. She was in perfect health, and there was no sign of any recurrence; the scar at the top of the vagina was quite sound.

In Dr. Spencer's paper that appeared in the 'Quarterly Medical Journal' for July, 1896, forty cases of deciduoma malignum were tabulated. Of these only seventeen were treated by hysterectomy, and two of these cases died of the operation, three others died about six months after the operation, and "twelve remained well at various intervals up to eighteen months after the operation." In Dr. Lewers' case the interval since the operation was now sixteen months, and the patient had remained quite well. So far as he was aware, the only other case of this disease treated by vaginal hysterectomy in this country was the one reported by Dr. J. Rutherford Morison in vol. xxxviii of the Society's 'Transactions,' and in that case the patient had died exactly seven months after the operation with clinical evidence of secondary mischief in the lungs.

COMPLETE INCONTINENCE OF URINE CURED BY VENTRO-FIXATION OF THE UTERUS.

By H. Macnaughton-Jones, M.D.

The brief note I present to the Society of this case is furnished to show the clinical value of ventro-fixation of the uterus for the cure of incontinence of urine when this symptom is due to pressure from an enlarged and anteverted uterus. Hysteropexy and various fixation operations as a cure for backward displacements are matters of constant practice, but the operation for the purpose I

have specified is not commonly performed nor referred to in gynæcological works. Briefly, my case was as follows:

A lady aged 48 consulted me in February of this year for incontinence of urine, she having been for some time obliged to wear a urinal. The trouble had begun over a year previously with frequent, and had gradually passed on to constant micturition, finally ending in incontinence. During my examination the urine was flowing from the bladder. I found a uterus enlarged, anteflexed, with a cavity 3½ inches in length, the fundus lying directly forward on the neck of the bladder. There was slight anterior vaginal prolapse. I tried a well-fitting Galabin's bar pessary, but it gave only slight relief, so I recommended operation. I thought to perform a posterior and lateral colporrhaphy, but was doubtful of the degree of benefit that would follow. On talking the case over with Mr. Bland Sutton, he suggested trying ventro-fixation.

I operated on March the 3rd. On March the 6th she passed her urine naturally, and there was five hours' interval in the emptying of the bladder. From that time to the present she has passed water naturally and with comfort, retaining it for seven hours without distress.

LARGE FIBROID TUMOUR OF THE UTERUS UNDERGOING CYSTIC DEGENERATION.

Shown by Peter Horrocks, M.D.

TWO CASES OF FIBRO-MYOMA OF THE UTERUS REMOVED BY OPERATION FROM WOMEN UNDER TWENTY-FIVE YEARS OF AGE.

By Herbert R. Spencer, M.D., B.S.(Lond.),

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(*Abstract.*)

The author records two cases of fibro-myoma of the uterus removed by operation from women aged 24 and 23. The diagnosis of the nature of the tumour was verified by examination with the microscope, and the age of the patients by obtaining their certificates of birth. In the first case the tumour weighed 4 lbs. 9¾ oz., and was removed by amputation after laparotomy, the pedicle being treated extra-peritoneally. In the second case the tumour with the uterus weighed 16¼ oz., and was removed by vaginal hysterectomy after the peritoneum had been opened in an attempt to enucleate the tumour. The patients were in good health two years and one year after operation. A brief abstract is given of forty recorded cases of fibroid tumours occurring in women under twenty-five years of age. In at least eleven of the cases the diagnosis was clinical, and in only four cases was the diagnosis verified by examination with the microscope. The author concludes that uterine fibro-myoma is rare before the age of twenty-five and very rare before the age of twenty, and that there is no satisfactory record of its occurrence before the age of puberty.

I HAVE been taught by Sir John Williams (to whom I am indebted for the two cases about to be described) that the occurrence of fibroids in the uterus before the age of twenty-five is very rare. As the subject is one of some scientific and practical importance I have endeavoured to gain an approximate idea of the degree of its rarity by a search through the chief depositories of gynæcological lore, and I append a list of the cases I have been able to find recorded of fibroids occurring in women under twenty-five years of age. The list does not pretend to be an exhaustive one, but I believe it contains all the cases recorded in the works alluded to. If any have escaped my notice I need only ask pardon from those who have not conducted such a tedious and uncongenial research.

I have been unable to find any case of fibroid of the uterus occurring in a woman before the age of twenty-five in the 'Index Medicus' under the heading "Tumours of the Uterus."

The 'Catalogue of the Library of the Surgeon General's Office, U.S. Army,' contains under the same heading a reference to one case, viz.—

Bedford's case.—"Submucous fibrous tumours of the uterus in a married woman twenty-three years of age."

Nelson's 'Northern Lancet,' Plattsburg, New York, 1852–3, vi, 67—74. I have been unable to see the original paper, and cannot therefore say anything as to the circumstances under which it was observed.

The 'Archiv für Gynäkologie' contains the following cases:

Leopold's case (vol. xiii, p. 190).—The patient was aged 24. There was a painful uterine myoma completely filling the pelvis and reaching to the navel. Two years later, after the administration of ergotin, it was of the size of a small orange. No operation was performed.

Leopold's case (vol. xiii, p. 192).—The patient was aged 22. An interstitial fibroid about the size of a walnut was situated in the anterior upper wall of the cervix. No operation was performed.

Leopold's case (vol. xxxviii, p. 54).—The patient was aged 21. A submucous myoma reached to the navel. The operation of oöphorectomy proved fatal, and the tumour was found to be in part born into the vagina. No microscopic examination is given.

Fehling's case (vol. xlviii, p. 109).—The patient was aged 21. There was an interstitial myoma reaching within two fingers' breadth of the navel. Oöphorectomy was performed, and eight months later the tumour was smaller.

The 'Centralblatt für Gynäkologie' contains the following cases:

N. Eck's case (vol. 1878, p. 287).—The patient was aged 19. The uterus reached up to the navel, and was 20 cm. long. The tumour was enucleated after laparotomy. No microscopic examination is given.

L. Michel's case (vol. 1881, p. 368).—The patient was aged 21, and had been married five years. The tumour is said to have been a case of myoma telangiectodes. No operation nor post-mortem examination is mentioned.

Howitz's case (vol. 1883, p. 423).—The patient was aged 13. The case is published under the heading "Acht Laparotomien wegen Uterusfibrom" (quoted from 'Gynakolo og obstetr. Meddel,' Bd. iv, Hefte 1, 2). It is stated that before operation it could not be made out whether the tumour was a fibro-myoma or an ovarian cyst. It is also stated that the right ovary was left behind. Nothing is said as to the left ovary. It appears possible that the tumour may have been ovarian.

Wildt's case (vol. 1884, p. 206).—The patient was a negress 23 years of age, who had aborted three years before. The diagnosis was "interstitial fibroma uteri." Laparo-hysterectomy was performed, and the patient recovered.

Wilhelm Hager's case (vol. 1886, p. 650).—The patient was aged 22. The tumour, of the size of an adult head, rose midway between the ensiform cartilage and the navel. The sound passed 19 cm. The tumour weighed 1750

grammes, and was examined by Dr. E. Fränkel, and proved to be a pure fibro-myoma. It was enucleated from the posterior wall of the uterus after incision of the anterior wall by laparotomy.

Karström's case (vol. 1887, p. 648).—The patient was aged 24 (it is not clear whether at the time of observation or four years previously). The tumour weighed half a kilogramme, and was removed by enucleation after laparotomy. No mention is made of microscopic examination.

Bandl's case (vol. 1889, p. 80).—The patient was aged 22. The tumour was enucleated from the uterus without opening its cavity after laparotomy. No mention is made of microscopic examination.

R. Bukowski's case (vol. 1890, p. 638).—The patient was a virgin aged 18. The tumour weighed 1280 grammes. It was a fibro-myoma of the posterior wall, and was enucleated after laparotomy. No mention is made of microscopic examination.

Schmal's case (vol. 1891, p. 749).—The patient was aged 21; but though the paper is headed "Ein seltener Fall von Fibro-myoma uteri," the author concludes that it was a sarcoma.

Munde's case (vol. 1892, p. 484).—The patient was a nullipara, aged 23. Thirty-four fibroids were enucleated. No mention is made of microscopic examination.

R. Chrobak's case (vol. 1893, p. 470).—The patient was aged 23. Three subserous and many interstitial tumours (weighing 800 grammes) were removed. No mention of microscopic examination.

Brohl's case (vol. 1895, p. 1115).—The patient was a virgin aged 18. Multiple myomata of the body and cervix of the uterus were removed by laparotomy. No microscopic examination mentioned.

The 'Zeitschrift für Geburtshülfe und Frauenkrankheiten' contains—

Jordan's case (p. 163).—The patient was 24 years of age. The tumour was of the size of the fist, and was enucleated after dilatation of the cervix.

The 'Zeitschrift für Geburtshülfe und Gynäkologie' contains the following cases:

Engelmann's case (vol. i, p. 138).—The patient was aged 22. The tumour was of the size of a walnut, and situated in the anterior wall. Neither operation nor microscopic examination was made.

Engelmann's case (vol. i, p. 140).—The patient was aged 23½. The tumour was a subserous fibroid of the size of an orange growing from the fundus. No operation.

Engelmann's case (vol. i, p. 140).—The patient was aged 19. The tumour rose above the symphysis. No operation.

Engelmann's case (vol. i, p. 140).—The patient was aged 21. There was a submucous fibroid of the size of the fist in the posterior wall of the retroverted uterus. No operation.

F. Benicke's case (vol. iv, p. 283).—The patient was 20 years of age. The tumour was an interstitial fibro-myoma of the cervix; it was enucleated and examined with the microscope.

Lomer's case (vol. ix, p. 288).—The patient was aged 21. A tumour of the size of a child's head and three submucous tumours were enucleated by laparotomy. There is no mention of microscopic examination.

Schroeder's case (vol. xi, p. 150).—The patient was aged 22. A myoma rose up to the navel. The patient had a child, and when she was 23¾ years old the tumour was as big as the uterus at term. Neither operation nor microscopic examination is mentioned.

Paul Wehmer's case (vol. xiv, p. 122).—The patient was aged 24. The uterus, of the size of a man's head, contained numerous subserous, interstitial, and submucous fibromata. It was removed by supra-vaginal amputation. There is no mention of microscopic examination.

S. Archer's case (vol. xx, p. 312).—The patient was aged 22. A subserous myoma of the size of an apple was removed by operation. Microscopic examination not mentioned.

S. Archer's case (vol. xx, p. 322).—The patient was

aged 24. An enormous tumour removed by abdominal hysterectomy. There is no mention of microscopic examination.

Ludwig Kleinwächter's case (vol. xxv, p. 171).—The patient, aged 24, had a growth in the cervix of the size of a cherry. This case should not be counted, as neither operation nor microscopic examination was performed.

Ludwig Kleinwächter's case (vol. xxv, p. 174).—The patient was 23 years of age, is said to have been married 12 years (!), and had four children. The uterus was enlarged *in toto* and was harder than normal; in the anterior wall of the corpus was a tumour of the size of a hen's egg. No operation was performed, and there was no microscopic examination.

Von Meyer's case (vol. xxvii, p. 542).—The patient was aged 23. The tumour was a fibro-myomatous polypus with lymphangiectasis, cavernous vessels, and hæmorrhages. It measured 10 cm. × 7 cm. × 3 cm. No definite statement is given that the tumour was examined microscopically.

Hofmeier's case (vol. xxx, p. 240.)—The patient was aged 23. In the narrow external os was a suppurating disorganised tumour of the size of the fist. Microscopic examination not mentioned.

A. Martin's case (vol. xxxv, p. 139).—The patient was 19 years old. The uterus, of the size of the organ at the third month of pregnancy, and filled with polypoid fibrous growths, was removed by vaginal hysterectomy. The growths were examined by the microscope, and were of a hard fibrous structure.

The 'Obstetrical Transactions' contains records of two cases:

Playfair's case (vol. x, p. 105).—The patient was 22 years of age. On vaginal examination a firm globular tumour, the size of a large orange, could be very distinctly made out, attached behind and to the right side of the uterus. Eight months later the most careful examination failed to enable the author to detect any trace of the

tumour. This case is given as an instance of the absorption of fibroid tumours of the uterus.

Boxall's case (vol. xxxv, p. 410).—The patient was 23 years of age. Part of the uterus and the appendages were removed by abdominal section on account of a soft rapidly growing fibro-myoma in the left broad ligament. The author informs me that the tumour arose in the uterus, and grew into the broad ligament.

In the 'West London Medical Journal,' October, 1897, *Mansell Moullin* records a case in which a pedunculated fibroid was removed by laparotomy from a patient aged 24. There is no mention of microscopic examination.

In the 'Annales de Gynécologie,' vol. xxvi, p. 241, *Tillaux* records a case of a fibroid tumour of the cervix of the size of a nut, which was removed by amputation of the affected lip from a girl of 19. The tumour is said to have caused symptoms for six years. There is no note as to microscopic examination.

West ('Diseases of Women,' 1858, p. 275) states that he found, post mortem, a fibroid tumour in a woman aged 24, who died of puerperal peritonitis.

Winckel ('Diseases of Women,' English translation, p. 409) says that of forty-four autopsies on persons the subjects of myoma, two occurred in young women 21 years of age.

The above cases, forty in number, are the only ones I have been able to find recorded in which fibroid tumour of the uterus affected women under twenty-five years of age. Yet *Gusserow* ('Die Neubildungen des Uterus,' 1886, p. 39) says that amongst 953 collected cases of uterine fibroid, in no less than 15 the patient was under twenty years of age. *Winckel* found 9 patients and *Schroeder* 2 patients under twenty years of age.

Graily Hewitt ('Diseases of Women,' fourth edition, p. 622) gives a table which includes six cases occurring in women under twenty-five years of age.

A. Roehrig ('Berliner klin. Wochenschrift,' 1877, p. 433)

says that one of his patients with fibroid tumour was between fifteen and twenty, and six were between twenty and twenty-five years of age.

And *Beigel* ('Die Krankheiten des weiblichen Geschlechts,' p. 40) says that amongst 146 patients with fibroids and polypus he found no less than 20 under twenty-five years of age, the youngest being ten (!).

None of these last-named authors, however, give any details of their cases, nor do they state whether the diagnosis was made clinically, or after an operation or autopsy. Their statements, therefore, cannot be submitted to criticism, and are not available for a scientific inquiry.

The same remark applies to many of the 40 cases of which I have given abstracts. In at least 11 of the cases the diagnosis was not made after operation or autopsy, and in only four of the series (Hager's, Schmal's, Benicke's, Martin's) is it stated that the nature of the tumour has been decided by microscopic examination. Nor does it appear that any attempt was made to verify the ages of the patients, which I have done in my own cases by obtaining the certificates of birth.

In my opinion the records, to be of value, should state the exact age of the patient at the time the observation is made; the observation should be made by a medical man at an operation for the removal of the tumour, or at an autopsy; the tumour should be submitted to examination with the microscope, and the after-history should be given when possible. The following two cases fulfil these conditions, and may therefore be worth recording.

The conclusion to which the study of the subject of early uterine fibroids has led me is that uterine fibro-myoma is rare before the age of twenty-five, and very rare before the age of twenty, and that there is no satisfactory record of its occurrence before the age of puberty.

Case 1.—J. H—, 24 years of age (born on June 8th, 1870), was sent to me for operation by Sir John Williams, and was admitted to University College Hospital on

January 21st, 1895, complaining of pain in the left side of the abdomen since the spring of 1894, and swelling of the abdomen for two years.

The family history and personal past history were good, there being no tumours in the family to the patient's knowledge. The patient herself had always been very healthy.

Menstruation began at the age of thirteen, and had always been perfectly regular up to the time of her admission. The periods recurred every four weeks, and lasted a week, and required fifteen diapers.

The patient first noticed that the abdomen was enlarged four years ago, but thought this was due to her growing stout. Two years ago she noticed that the left side of the abdomen was larger than the right, but there was no pain nor inconvenience. The enlargement had been increasing up to the time of admission.

She first suffered pain in connection with the swelling in May, 1894; since then it has been constant, though usually not severe except at the periods. There was an appreciable increase in size of the tumour during the periods, and diminution afterwards.

The present state on January 22nd was as follows:—The patient was well developed and well nourished, and not anæmic. The abdomen was distended as by the uterus at the fifth month of pregnancy. The abdominal girth was 34¼ inches. The distension was due to a tumour which rose to a point 9 inches above the pubes, and 3 inches above the umbilicus. There was dulness up to the umbilicus. The flanks were resonant. The tumour felt firm, like a uterine fibroid in consistence. A uterine souffle could be heard 2 inches above and at right angles to Poupart's ligament. The tumour was fairly regular on the surface, and its limits easily defined. It was not moveable to any great extent from side to side, but felt as if this immobility were due to rigidity of the abdominal wall. The hymen was intact. The uterus felt as if it were anteflexed and not enlarged. On the top of it and

attached to it was the growth felt by the abdomen, which moved as one with the uterus. Behind the uterus was a roundish lump which appeared to be the lower end of the tumour felt by the abdomen. The case appeared to be one of uterine fibroid.

Ten days later the patient was examined under ether, and the diagnosis confirmed. The sound was then passed with antiseptic precautions for $3\frac{1}{4}$ inches. It showed the uterus to be slightly retroverted, and the tumour to be growing from the fundus at its anterior surface.

On account of the large size of the tumour and the pain to which it gave rise it was decided to perform abdominal hysterectomy.

On February 25th, 1895, the patient was given gas and ether, and a median vertical incision about 7 inches in length was made through the umbilicus, about two thirds of the incision being below and one third above this point. There was $1\frac{1}{4}$ inch of fat in the abdominal wall. A large soft tumour, evidently a fibroid, was found occupying the centre and lower two thirds of the abdomen behind the great omentum. Over the fundus of the tumour the descending colon was adherent for a space of about 6 inches × 2 inches. This bowel was so adherent that it had to be dissected off the tumour with the scalpel, and from this raw surface on the bowel very free oozing occurred; it was temporarily checked by forceps and sponge pressure, but, as it still continued after the removal of the pressure, the raw surface was lightly packed with three strips of iodoform gauze, which were brought through the wound near the umbilicus. The tumour was removed by passing the wire of the serre-nœud around its pedicle, which was the fundus of the uterus; the pedicle was treated extra-peritoneally in the ordinary way. The wound was closed with silk except where the gauze and the pedicle lay, and was dressed with iodoform gauze and wool, and a many-tailed bandage.

The operation lasted seventy-three minutes, and the amount of shock was very considerable.

The tumour measured 7½ inches × 6½ inches, and weighed 4 lbs. 9¾ ounces.

Microscopic examination showed it to be a typical fibro-myoma (specimen and sections exhibited).

In the first two days after the operation the patient suffered a good deal of pain, for which small doses of morphia were injected hypodermically.

On February 26th two of the pieces of gauze which plugged the bleeding surface on the colon were removed, and on the 27th the remaining piece. On this day the temperature rose to 103°, and the pulse to 148; but the temperature fell next day to 100·8° at the highest point.

The further progress of the case presented little that is noteworthy.

The stitches were removed on March 4th, and the wound had healed except where the gauze had been and where the stump lay. On March 12th the greater part of the stump was cut away; on March 14th the wire was removed. The gauze track had healed up by the 21st, and the whole wound was completely cicatrised on April 28th, and the patient left the hospital on April 30th, 1895, looking and feeling quite well. She has married, and has enjoyed the most blooming health since the operation.

On March 18th, 1897, I found the remains of the uterus, small and adherent to the scar.

In September of this year she told me that she had been quite well and regular since the operation.

Case 2.—A. M—, 23 years of age (born February 18th, 1872), was sent to me by Dr. Wood, of Cambridge, on October 9th, 1895, complaining of excessive hæmorrhage and pain at the periods. The patient had been married for ten months, and during that time the bleeding had increased considerably, but for the last six months the loss had been very great, lasting fourteen days; and owing to this and the pain the patient had been so collapsed that she had been compelled to take to her bed.

Menstruation began at the age of fourteen, and was

never regular, the intervals varying from three to five weeks, and the flow lasting for five days. About three years ago the period lasted seven days, and continued to do so up till marriage, since which the loss had been excessive, as stated above. Menstruation had always been painful.

The health of the patient had been fairly good previously to the last few months, though she had been treated for anæmia for several years. The patient's mother had died at the age of sixty of "cancer in the back passage;" the father, at the age of forty-two, of Bright's disease. There was no history of phthisis in the family.

On October 12th the state of the patient was as follows:—There was marked anæmia and a soft systolic hæmic murmur over the base of the heart. There was a little fulness of the abdomen above the pubes, where a tumour could be felt rising out of the pelvis to a height of 4 inches above the symphysis pubis, and measuring nearly 4 inches transversely; the tumour was fairly regular on the surface, and hard like a fibroid. The hymen was torn posteriorly, the cervix was small, the os easily admitted a sound. The uterus was hard, distended to the size of the pregnant organ at three and a half months, somewhat irregular, but fairly smooth on the surface. The sound was easily passed, at first in a forward direction for 3½ inches, and then backwards for a distance of 5 inches in all; the cavity of the uterus was enlarged, and there was roughness on its anterior wall.

On October 15th the uterus was curetted, and after dilatation with Hegar's sounds was explored with the little finger. A submucous tumour was found bulging into the uterine cavity, and attached to the fundus and left and posterior walls. It was decided to endeavour to enucleate this tumour when the patient had recovered her strength.

Accordingly on October 29th the uterus was dilated up to 20 Hegar, which caused a slight laceration of the left side of the cervix. Then the capsule was cut with

scissors, and an attempt was made to enucleate the tumour; this was found to be very difficult on account of the toughness of the tumour and the presence of several small cavities in its substance. An attempt was therefore made to remove it in pieces by strong volsella and scissors, but after a handful of fragments had been removed in this manner a ragged, lacerated mass about the size of the fist remained firmly fixed in the posterior and left wall of the organ. In attempting to enucleate this the peritoneal cavity was opened, and, as it was impossible to remove the whole of the ragged tumour, it was decided to perform vaginal hysterectomy. The bladder was therefore separated in the usual way, and the vesico-uterine pouch opened; then the anterior wall of the uterus was incised up to the fundus, and V-shaped fragments were removed by scissors; finally, the tumour and posterior wall of the uterus were cut through in the sagittal plane. Each half was then delivered into the vagina, a silk ligature was placed upon the upper part of the right broad ligament, and Doyen's forceps were then placed from above down upon each broad ligament outside the ovaries, and the uterus was cut away. Two broad strips of iodoform gauze were then placed in the peritoneal cavity, and the patient returned to bed. The removal of the uterus occupied only a few minutes, but the whole operation had taken an hour and three quarters, but at the end the patient was in very fair condition considering that she was at first very anæmic, and had lost a large amount of blood during the enucleation. The parts removed weighed 16¼ ounces. The tumour contained several small cavities of the size of peas and cherries, and in the centre a hard solid fibroid mass about an inch and a half in diameter. Microscopic examination of the tumour showed it to be a typical fibro-myoma of the uterus (specimen and section exhibited).

During convalescence the temperature rose to 102·4° on the third day, and to 104·6° (the highest point) on the fifth day, and did not return to the normal for a fortnight.

This access of fever was associated with an exudation in the right broad ligament around the silk ligature, which was removed on the sixteenth day. The general condition of the patient remained good throughout. The gauze plugs were removed on the fourth day, and the scar had completely cicatrised on December 3rd, when the patient got up, having regained colour and being quite well. She left the hospital on December 11th. A year later, on October 27th, 1896, I examined the patient. She appeared to be in robust health, had a florid complexion, and had had no pain nor trouble of any kind since she left the hospital, except that there was occasionally, but not always, slight pain on coitus. There were a few brownish-red patches in the vestibule. The vagina measured 3 inches along its posterior wall, and easily admitted two fingers. The patient had flushes four or five times a day, but did not sweat after the flushes. She weighed 7 st. 11 lbs. (a year previously 7 st. 12 lbs.),—that is to say, adding the weight of the uterus, she was of exactly the same weight as before the operation.

Dr. Duncan pointed out how well one of the author's recorded cases emphasised what Dr. Duncan had said a few meetings previously, viz. that enucleation of fibroid tumours was a very dangerous procedure, and should not be resorted to. Hysterectomy was, in his opinion, safer and more scientific.

Dr. Boxall was now able to furnish details of the case referred to by Dr. Spencer, which at the time this specimen was shown before the Society he could not do, as it was then the subject of legal investigation. The patient was born on August 9th, 1870. She was therefore just twenty-three years of age when she came under observation in August, 1893. Six months previously, during a menstrual period, she fell while dancing on the stage. The flow stopped, and returned ten days later. Symptoms of peritonitis supervened; the temperature reached 104° F. Under treatment the acute symptoms subsided, but the pain and tenderness in the lower abdomen returned when attempts were made to get up. The courses began between fourteen and fifteen, and, except for some irregularity during the first year, had continued regularly up to the time of the fall, and had shown no disposition to increase. Her previous health had been good. When first examined in August the uterus was found to be a little enlarged and irregular in shape, with some tenderness,

ill-defined thickening and partial fixation on the left side, but none on the right. A further period of absolute rest in bed with hot douches was enjoined. When examined again in October the swelling had increased to the size of a five months' gestation. The tenderness had not subsided, and the temperature continued to rise from half to one degree above normal for days together, and on attempting again to get up the pain and tenderness had returned acutely. An exploratory operation was decided upon. All the parts on the left side of the pelvis were adherent, especially about the ovary. The uterus was displaced to the right, and intimately connected with it was an elastic mass in the left broad ligament, as large as the ball of an oil flask. Two other fibroid nodules not larger than a nutmeg were visible on the abdominal surface of the uterus near the fundus. The adhesions were separated, the main mass enucleated from the broad ligament, and together with the body of the uterus and appendages was removed, a pedicle formed by the cervix being secured by a clamp outside the abdomen. The main mass gave the impression of an abscess with thickened walls, but on cutting into it after removal it proved to be of uniform consistence, and to be composed of involuntary muscle springing from the left side of the uterus. Under the microscope it exhibits the ordinary characters of a fibro-myoma. The cavity of the uterus was not enlarged, and from first to last the periods were not increased, so that the presence of a fibroid was not suspected. The patient married at the beginning of 1895, and continues in good health. In Dr. Spencer's second case the mother died of cancer. In this case also the mother has recently died of cancer, recurring two years after vaginal hysterectomy for disease of the cervix spreading into the body.

Dr. Herman said that his opinion as to the practicability of enucleation in the case of the tumour shown by Dr. Duncan at the November meeting of the Society ('Transactions,' vol. xxxix, p. 291) remained the same as it was in November. He did not think that Dr. Duncan had shown (as was stated in the 'Transactions') that the uterus might easily have been perforated had enucleation been attempted. He thought, on the contrary, that by *morcellement* the fibroid could easily and safely have been removed. This was an old and good method of removing such tumours. There were limits to its use. If the tumour were so large that its relation to the uterine cavity could not be clearly made out, then it was difficult to say whether enucleation would be practicable or not. As a rule, the size of a fœtal head represented the size of the largest tumours that could be easily removed by this method, although larger tumours than this could sometimes be so disposed of. Had Dr. Duncan's tumour been removed in this way the patient would have recovered capable of every function, instead of being *minus* her uterus.

He did not think Dr. Spencer's case showed that any greater danger attended enucleation, for his patient recovered as well as she could have done after abdominal hysterectomy, and without the disadvantage of an abdominal scar. There was one point upon which he ventured to criticise Dr. Spencer's method of dealing with his case. It was essential for the performance of enucleation that the cervix should be so dilated that it would admit easily two fingers. Room was required for a finger to guide and an instrument to work. He (Dr. Herman) thought this was most safely done by dilatation with tents, protracted over some days,—first one, then several tents being used. Hegar's dilators when used to produce such great dilatation were apt to tear the cervix. Dr. Spencer dilated up to No. 20, which was very little larger than would admit one finger (No. 17 would just admit a finger). With tents much more room could have been gained, and the operation would have been easier. He fully concurred in the commendations of Dr. Spencer's paper which had been expressed by former speakers.

Dr. Peter Horrocks did not think that the paper was intended to provoke a discussion on the relative merits of enucleation of fibroid tumours of the uterus and their treatment by hysterectomy. The title of the paper indicated that it was to show that real cases of fibroid tumours of the uterus did exist in women under twenty-five years of age. Why twenty-five and not twenty-four or twenty-six was selected was not apparent. It had been said before that Society some time ago by Mr. Alban Doran that these tumours never occurred, or at all events were practically unknown, before the age of twenty-five. The two cases, details of which had been given so minutely by Dr. Spencer to-night, and the cases he heard quoted by other observers, showed that they were not unknown. It would have been simpler if one could have said that fibroids of the uterus never occurred before twenty-five, for then, given a case with a pelvic tumour, one would have been able to say if the patient was under twenty-five that *ipso facto* it could not be a fibroid. But, unfortunately, clinical experience everywhere exhibited exceptions which rendered dogmatic teaching impossible. Still, it must be admitted that true fibroids (that is, fibro-myomata) of the uterus were rare before twenty-five and unknown before puberty. They were also much commoner in single than in married women, and in women who had never been pregnant than in women who had. Moreover the tumours began to atrophy as a rule after the climacteric. All these facts proved that in some way fibroids were associated with active menstrual life, and whether they were produced by a kind of deflection of a *vis nervosa* or not it was difficult to say.

Dr. Lewers agreed with the remarks that had been made by Dr. Herman as to enucleation. He considered that the justifiability of enucleation *per vaginam* by *morcellement* depended chiefly on the exact position of the fibroid in relation to the uterine wall. When the fibroid was so situated that its largest diameter projected free in the uterine cavity, and only a moderate proportion of the tumour—one third, for instance, or less—still remained embedded in the thickness of the uterine wall, then in skilled hands he thought enucleation *per vaginam* by *morcellement* was free from any great risk, and was the proper treatment for the case. When, however, examination after full dilatation of the cervix showed that the largest diameter of the tumour was still in the thickness of the wall of the uterus, he regarded enucleation as exceedingly dangerous, and considered that if operative treatment was indicated on account of the severity of the symptoms, the proper course was to perform either removal of the uterine appendages or abdominal hysterectomy, according to the circumstances of the particular case.

The President expressed his high appreciation of the value of Dr. Spencer's paper. He knew something of the labour such papers cost. In the course of a discussion upon a specimen of fibroids of the uterus in a girl of twenty-six shown for him (the President) by Dr. A. F. Stabb fifteen months ago, Mr. Doran had remarked that a monograph on the subject of fibroids in early life was much wanted. Such a monograph had now been produced, characterised by the thoroughness they were accustomed to expect in all Dr. Spencer's work. No papers enriched the Society's 'Transactions' more than those which gave a careful summary of the literature of a subject, provided that, as in the paper just read, the inquiry had been of an exhaustive character. It was to be hoped that Fellows would henceforth recognise the importance of recording, on the lines Dr. Spencer had laid down as essential for scientific accuracy, all cases that came under their observation of uterine fibro-myomata occurring in young subjects. In reference to the cases that Dr. Spencer himself had contributed, he would be glad to hear the reasons that had led the author to adopt the plan of plugging with iodoform gauze in preference to other means of arresting the bleeding from the raw surface left after separating extensive and intimate intestinal adhesions. Gauze plugging was, no doubt, very effective, but it was a method that he always adopted unwillingly, on account of the disturbance of the wound when the plug had to be removed. He thought the extra-peritoneal method of dealing with the pedicle in abdominal hysterectomy could scarcely now be correctly spoken of as "the usual way," but perhaps the words were used with another meaning. Much difference of opinion had been expressed by previous speakers

as to the value and safety of the treatment of fibro-myomata of moderate size by the method of enucleation *per vaginam*. He was bound to say that in his experience this method had proved more dangerous than removal of the entire uterus, not only from the risk of injuring the peritoneal surface of the uterus, but from the difficulty in many cases of completing the enucleation. If fragments were left, they were almost certain to become necrotic, and thus exposed the patient to grave risk from septic absorption. He was of opinion that this method should only be employed by experienced and dexterous operators. He would be sorry if what had been said should have the effect of leading the inexperienced to choose a method of treatment so dangerous and so liable to land them in all manner of unforeseen difficulties. It was possible, of course, that an improved technique might overcome these objections, but enucleation as he had hitherto seen it practised was certainly not a method to be indiscriminately recommended.

Dr. Herbert Spencer, in reply, thanked the President and the other speakers for their kind remarks on his paper, the object of which was to show by undeniable evidence that fibro-myoma of the uterus did occur in women before the age of twenty-five, and to form an estimate of its rarity. The reason for taking the age of twenty-five was indicated in the paper and in the remarks of other speakers, including Dr. Horrocks. Every one knew that after twenty-five the disease became comparatively common, whereas before that age its rarity, judged by published records, was shown by the fact that Dr. Boxall's was the only other case which he had been able to find fully and satisfactorily recorded by an English author. He had not discussed the treatment; but he entirely agreed with Dr. Herman's remarks on the specimen shown by Dr. Duncan, and generally with his remarks on enucleation *per vaginam*, which in his opinion was an extremely valuable operation, and yielded very good results. The preliminary dilatation was an important matter. It was usually important to have the os dilated sufficiently to admit two fingers; this he had generally done by Hegar's dilators and the fingers—there were certain special risks in the prolonged use of tents in these cases,—but he thought that perhaps plugging with iodoform gauze would be a more satisfactory method of dilating the canal. He did not limit the size of the tumours suitable for enucleation *per vaginam* to that of a fœtal head, and the limitation proposed by Dr. Lewers was also, in his opinion, too strict. He had successfully removed, at one sitting, a sessile tumour weighing 2 lbs. 2 oz., through a cervix undilated before the operation, and had successfully removed much larger tumours at several sittings—a method, however, which he did not recommend. During the operation he had, in one other case, accidentally opened the peritoneum;

in that case, after completely removing the tumour, he stitched up the hole, and the patient recovered well. It was obvious that even if vaginal hysterectomy had to be performed, the patient would be better off than if she had an abdominal scar, not to mention the smaller risk of the vaginal operation. He was very satisfied with the iodoform gauze for checking the severe bleeding from the adherent surface of the colon. The President would see on reading the details of the case that the ordinary methods of checking hæmorrhage were quite inapplicable to a surface measuring six inches by two inches which bled profusely from innumerable small vessels. In saying that he treated the pedicle in his first case "by the extra-peritoneal method in the usual way" he, of course, did not mean "in the usual way by the extra-peritoneal method," but "in the usual way (of performing the extra-peritoneal operation)." The President's concluding remarks showed that, notwithstanding his personal objections to enucleation *per vaginam*, he kept an open mind on the subject; and he (Dr. Spencer) ventured to predict that this would lead him yet to recommend this old operation, which in properly selected cases was one of the safest and most valuable of all the major gynæcological operations.

JULY 6TH, 1898.

C. J. CULLINGWORTH, M.D., President, in the Chair.

Present—27 Fellows and 3 visitors.

Books were presented by the Société Obstétricale et Gynécologique de Paris, the Staff of the Presbyterian Hospital in the City of New York, and Messrs. Steinheil and Co.

Percy Leonard Blaber, L.R.C.P., and Alfred Gervase Penny, M.B., B.C.Cantab., were admitted Fellows of the Society.

John Robinson Harper, L.R.C.P.(Barnstaple), was declared admitted.

The following gentleman was proposed for election:—Francis James Lea, M.R.C.S.Eng.

A CASE OF ACUTE BEDSORE FOLLOWING PARTURITION.

By G. F. BLACKER, M.D.

THE occurrence of an acute bedsore in cases of paraplegia, leading within a few days to the extensive

destruction of tissue, is a fact that has been well known for a number of years, and has been specially called attention to by Charcot amongst others.

The occurrence, however, of an acute bedsore in a patient without any nervous lesion is of such rarity that I have thought the following case worthy of being put on record.

The patient, twenty-six years of age, a multipara, was confined in the extern maternity department of University College Hospital on July 29th, 1897.

The child presented by the vertex, and was of medium size. The labour lasted about eight hours, and was perfectly normal up to the end of the second stage.

After the birth of the child there was a good deal of hæmorrhage, the placenta having to be extracted by hand, and about two and a half pints of blood were lost. The bleeding was checked by hot douches, but not before the loss had caused a considerable amount of faintness.

During the labour, to relieve the pains, the lower part of the back was supported by the knee of the student attending the case. This support was continued intermittently for about one hour. He asserts that the amount of pressure employed was not greater than that he was in the constant habit of employing with other patients, an amount which he had never noticed to be attended by any subsequent ill results. He admits, however, that in this case he noticed after delivery that the upper part of the sacrum was rather red.

On the first day of the puerperium the skin over the sacrum was found to be bruised over an area three inches by two inches, the bruise being surrounded by a number of small vesicles containing watery fluid.

On the second day the bruise was more marked, and looked as if about to slough, and at this time the skin over the left trochanter was also noticed to be a little reddened.

On the third day a small sinus formed about one inch in depth, leading down to the sacrum, and the whole of

the bruised area in the course of the next few days formed one large slough, which did not, however, extend beyond its original confines.

The condition remained about the same until the eleventh day, when the patient was admitted into the hospital.

On admission the following note was made.

The patient is a pale, well-nourished, but flabby-looking woman, who was confined twelve days ago, and is suckling. Over the middle of the upper part of the sacrum, extending more to the left than to the right of the middle line, is a large bedsore, which has destroyed the tissues down to the fascia over the bone, the latter presenting a shreddy sloughy surface of a light yellow colour. The sore is roughly circular, measuring about three inches across by two inches deep. It is almost wholly occupied by a dirty yellow offensive slough, which is removed entire without difficulty. The skin edges are ulcerated, and the sides of the wound are in part sloughing and in part granulating; while the base is sloughing ; the whole sore looking very acute, as if a large mass of tissue in the form of a cylinder had suddenly necrosed from skin to bone.

The slough removed was found to be composed of skin, fat, fascia, and some of the fibres of the gluteus maximus muscle. There was no evidence of any growth in the slough, which was composed solely of the altered tissues of the part. On pelvic examination there was a good deal of purulent discharge from the cervix, but otherwise the uterus and appendages were found to be normal for the period of the puerperium reached.

There was no evidence of any injury to the vagina or cervix, and no sign of any exudation or abnormal tenderness in the pelvis. There was no paralysis or rigidity of the lower limbs, and no loss of sensation. The knee-jerks were a little exaggerated, but no ankle-clonus could at this time be obtained.

On the fourteenth day after admission the greater part of the slough had separated, and the wound presented a

healthy granulating appearance. After this the sore rapidly granulated up, and was quite soundly healed when the patient left the hospital after a stay of two months.

Before she left some doubtful physical signs were discovered at the right apex of the lung, but no tubercle bacilli could be detected in the sputum.

The nervous system was carefully examined upon several occasions, and was found normal except that the knee-jerks were a little excessive, more so on the right than on the left side, and ankle-clonus could at times be obtained in the right leg.

Tactile sensation and appreciation of heat and cold were perfect in both lower limbs.

The patient walked well, and no wasting of the muscles of the lower limbs could be detected. Rhomberg's sign was absent. She had enjoyed perfect health up to the time of her labour, and had not been confined to bed. No history of syphilis could be obtained, and she had never had any form of pelvic inflammation.

The case presents several points of interest. There can be no doubt that the occurrence of the bedsore was determined by the pressure exerted upon the back during delivery, and had it run the ordinary course of a pressure bedsore the case would not have presented any special features. But the close resemblance that the case bore to one of acute decubitus could not fail to strike every one who saw it, and this was especially marked in the acuteness of the onset, in the rapidity of its course, and in the extensive destruction of tissue to which it gave rise. And yet a most careful examination of the patient upon several occasions failed to elicit any nervous or other lesion which might have explained the striking resemblance that the ulcer bore to one following a traumatic lesion of the spine.

I have not been able to find any definite reference to such a complication of labour, nor any record of any other cases except one described by Balkow * in 1837. He

* Balkow, 'Sanitats. Berich. der Prov. Brand.,' 1837, Berlin, 1840, p. 106.

records the case of a woman whom, in her sixth confinement, he had to deliver with forceps on account of the large size of the child's head, a considerable amount of force being employed.

For the first three days the patient did very well. During the following night she was seized with very acute pain in the right leg, so severe that any examination was quite impossible.

Four days later a bedsore was found to be present upon the sacrum, covering an area the size of the palm of the hand. The sore rapidly healed, and as it ceased to spread the pain disappeared. There was no evidence of any septic infection in the case. It is not quite clear that this was a case of acute bedsore, but the author appears to imply that the sore had been present for some few days before it was discovered upon the seventh day after delivery.

Of recent years a good deal has been written upon the subject of acute bedsore following operations upon the pelvic organs, and especially vaginal hysterectomy.

Segond * records the case of a woman thirty years of age laparotomised for pelvic suppuration. On the third day the temperature became elevated, the patient's condition grave, and in a few hours an eschar as large as the hand, comprising all the tissues down to the bone, formed over the sacral region. The patient made a good recovery.

He also mentions a case of Pinard's occurring in a patient who had had the operation of ischio-pubiotomy performed.

Terrier and Hartmann † record three cases in a table of thirty-six cases of hysterectomy performed for cancer.

Baudron ‡ found six cases of acute bedsore occurring in 542 cases of hysterectomy performed for pelvic suppuration, fibroma, and carcinoma of the uterus. Of these six

* Segond, "Le Décubitus Acutus," 'Rev. de Gynécol. et de Chir. abd.,' No. 1, 1897, p. 59.

† F. Terrier and Hartmann, 'Rev. de Chir.,' Paris, 1892, p. 296.

‡ E. Baudron, 'Thèse,' Paris, 1893–4, No. 276, p. 77.

cases all were operated upon for inflammatory lesions of the pelvic organs, suppurating in four, non-suppurating in two.

The operation was long and difficult only in one case, while in five of the six the pelvic inflammation was of long standing.

Baudron's description of the bedsores and of their course agrees very completely with what was observed in my own patient, and, as he says, it is evident that the process corresponds very closely to that consecutive to traumatic lesions of the spinal cord. All the six patients made a good recovery. He points out that at any rate in these six cases the occurrence of the acute bedsore could not be attributed to a long stay in bed, nor to the length or difficulty of the operation, nor to the pressure of the table. He is inclined to regard it as due to damage inflicted upon some of the nerves of the pelvis by compression or stretching during the course of the hysterectomy.

Segond, however, thinks that possibly in these cases the causation of the acute bedsore is in some way connected with the pelvic inflammation. He calls attention to the fact that in all six cases, with one exception, the patient had had long-continued inflammatory trouble in the pelvis, and he thinks it possible that such a condition may produce some irritative lesion of the pelvic nerves, and that this by disturbing their functions may lead to the formation of a trophic lesion in the shape of an acute bedsore.

Similar cases have been recorded by Leprevost * and Morestin † as occurring after extirpation of the rectum by the sacro-coccygeal method, and also after extirpation of the uterus in the same way.

In these cases, however, it is extremely likely that some injury to the skin over the sacrum or some inter-

* Leprevost, 'Congr. Franç. de Chir.,' 6th session, Paris, 1892, p. 52.

† Morestin, 'Thèse,' Paris, 1894, No. 112, p. 227.

ference with its blood supply occurs to a sufficient extent to explain the occurrence of the lesion.

As Morestin points out, there are three possible causes for such a bedsore, ischæmia, sepsis, or a lesion of a trophic nerve.

In the case recorded in this paper the occurrence of the bedsore must be attributed to ischæmia of the part, due to the pressure exerted upon the sacrum during delivery. It is impossible to see how any undue pressure or injury could have occurred to the pelvic nerves during the course of what was a perfectly normal labour, and there was no evidence at any time of any septic infection.

It must be concluded, therefore, that the amount of interference with the circulation produced by the intermittent pressure was sufficient in a feebly nourished woman, further debilitated by a considerable amount of post-partum hæmorrhage, to produce an acute bedsore.

Dr. Herman said he had not seen a case like that of Dr. Blacker, but he had seen and brought before the Society instances of acute gangrene of parts supplied by the same system of vessels,—acute gangrene of the vulva ('Trans.,' vol. xxv), and gangrene of the upper part of the vagina, the cervix uteri, and base of bladder ('Trans.,' vol. xxix). In these cases, as in Dr. Blacker's, the gangrene was not part of a spreading inflammation. He (Dr. Herman) thought it must be due to some condition affecting the circulation, for it was symmetrical. Trophic changes due to affections of peripheral nerves were generally unsymmetrical.

FIVE FŒTAL SACS FROM THE PERITONEAL CAVITY OF A RABBIT.

Shown by M. S. Pembrey, M.D.

Dr. Pembrey exhibited five cake-like bodies which were found free in the peritoneal cavity of a large rabbit.

These bodies were about 7 or 8 cm. in length, 4 or 5 cm. in width, and 2 cm. in thickness. The largest contained four fœtuses, the development of which showed that they were at full term; in each of the other sacs one fœtus was found. The sacs were formed from the amnion greatly thickened by connective tissue; the placenta could be seen, but its maternal surface had been completely smoothed over by the growth of connective tissue. The amniotic fluid had been absorbed, and the fœtuses, although showing no signs of putrefaction, were somewhat macerated.

The abdomen of the mother showed marked signs of old peritonitis, but there were no points of attachment for the placenta. The genital canal of the mother showed no naked-eye signs of rupture. The fœtuses had evidently been retained for months in the abdominal cavity, for the mother had cast four litters during the time she was under observation by Dr. Pembrey.

The specimens support the view held by Bland Sutton, that these cases are not due to extra-uterine pregnancy, but to rupture of the uterus and extrusion of the fœtal sacs into the abdominal cavity.

Mr. Bland Sutton observed that the question of extra-uterine fœtuses in the lower mammals was one of great interest, and he was able to state, as the result of an investigation extending over many years, that, with one doubtful exception, there was no evidence of the occurrence of tubal pregnancy except in woman. The doubtful case occurred in a baboon (*Cynocephalus hamadryas*) which died in the Zoological Gardens, Berlin, and was reported upon by Waldeyer (*vide* 'Cent. f. Gyn.,' 1893). The way that fœtuses in their membranes find a way into the belly is very interesting, and he had followed it out most closely in bitches. When a bitch accommodates a dog far above her size she runs two great risks:—(1) The dog's penis sometimes perforates the vagina, and may cause death in about thirty-six hours. (2) Should the bitch escape this danger and conceive, then the pups are inordinately large, and delivery is impossible. In such cases rupture takes place, usually near the junction of the uterus and vagina, and the pups escape into the belly. Many such events terminate fatally; others survive even this grave accident, for the uterus, after expelling its contents,

rapidly contracts, hence a slit which allowed the extrusion of a pup at the full time rapidly becomes reduced to an opening of very small dimensions, and quickly heals. The intra-peritoneal pups may become sequestered in the recesses of the belly, or form adhesions to peritoneum or intestines, and cease to give trouble. When, months later, these encapsuled fœtuses are found by a veterinary surgeon or an anatomist, they naturally excite astonishment, and an account of them may perchance find its way into periodical literature as examples of extra-uterine gestation; but now we know the way the fœtuses obtain an entrance the old view that they are due to oösperms (fertilised ova) dropping into the cœlom (general peritoneal cavity) falls to the ground. Even the facts of the cases rarely support such a view, for it is quite clear that an embryo cannot live upon itself and grow, for one must fall back on such a supposition to explain the existence of fœtuses in their membranes which are found tumbling loosely about the belly. Much that is erroneous in relation to supposed extra-uterine gestation in mammals arises in the very frequent error of mistaking the elongated uterine cornua for Fallopian tubes, which in the majority of double-horned uteri are narrow, thin, and often coiled ducts. Mr. Sutton's conclusions in regard to intra-peritoneal fœtuses are founded on a close study of the accident in dogs, ewes, jackals, cows, and cats. It is also worth remembering that a gravid uterine cornu may be ruptured from external forces, kicks, blows, &c.; and occasionally a gravid cornu may undergo axial rotation and complete detachment. This unusual accident has been observed in the hare (Hutchinson), in the cat (Vivier), the ewe and guinea-pig (Ercolani). Although Mr. Sutton emphasised the fact that up to the present time he knows of no undoubted case of tubal gestation in a mammal except woman, he does not deny its existence. Of course it is possible, but its occurrence awaits demonstration.

The President thanked Dr. Pembrey in the name of the Society for his most interesting communication, and hoped that it would be followed in due course by a report of the further investigation which the author had expressed his intention of carrying out. There could be no doubt that the solution of many disputed questions in human obstetrics would be greatly facilitated by a better knowledge of the conditions, normal and abnormal, met with in the study of the gestation process in animals. Dr. Pembrey's communication had been fitly supplemented by the valuable remarks of Mr. Bland Sutton, to which the Fellows had listened with scarcely less interest than they had listened to the communication itself. The President said it would no doubt have been quite as much a surprise to the Fellows generally as it had been to him, to learn that a genuine sagittal fontanelle had been found in so large a per-

centage of the cases in which it had been looked for. Now that attention had been called to the subject no doubt other communications would be forthcoming, confirming or otherwise the conclusions of Dr. Lea as to the frequency of the condition. He thought the liability of this extra fontanelle to be mistaken for a fracture, the result of violence, had an important medico-legal bearing which ought not to be lost sight of.

CYSTIC FIBRO-MYOMA OF THE UTERUS COMPLICATING PREGNANCY—REMOVAL AT FOUR AND A HALF MONTHS.

Shown by J. Dysart McCaw, M.D.

This tumour was removed on the 6th October, 1897, from a patient aged 34 years, then four months and a half pregnant with her first child. She had been married eight years, and beyond slight dysmenorrhœa, and occasional attacks of migraine, always enjoyed fairly good health from marriage until she was pregnant about a month, when urgent vomiting, which was almost continuous, commenced. The sickness was accompanied by very severe abdominal pain which was intermittent, and by constipation with tympanites. The patient was at times in great distress, pulse quick and weak, but the temperature was never over 99° F. The presence of the tumour, owing to the tympanitic distension, was unnoticed until between the third and fourth months of pregnancy, when the irregular shape of the abdomen suggested it, and a growth was then discovered occupying the left side of the abdominal cavity from the margin of the ribs down to, and into, the pelvis. Dr. Cullingworth and Mr. Henry Morris saw the patient with me during the last week of September. The diagnosis was extremely difficult from the fact that this subperitoneal myoma had fallen backwards; and having small intestine over part of its

front surface, and not moving with the uterus nor causing movement of the uterus when itself was moved, it gave the impression of being a retro-peritoneal growth, and presumably a fibro-lipoma in the neighbourhood of the kidney. Immediate removal of the growth was decided on, and Mr. Morris was asked to operate, which he did on the 6th of October, 1897. The tumour, which proved to be a cystic fibro-myoma of the uterus, was reached through the linea semilunaris, the pedicle being cut away in a wedge-shaped manner from the uterine wall, and the cut surfaces brought and retained together by silk sutures. No drainage-tube was required, and scarcely any blood lost. The tumour weighed 4 lbs. The patient made a rapid recovery. I delivered her, with the aid of forceps, of a living male child on the 24th February, 1898, chloroform being administered by my neighbour Dr. Harper, a Fellow of this Society.

At this date (July, 1898) both mother and child are in perfect health.

The President said that when he saw Dr. McCaw's patient he certainly came to the conclusion that the tumour was renal. Mr. Henry Morris was thereupon consulted, and as he formed a similar opinion, it was arranged that he should operate for its removal. On the abdomen being opened, both Mr. Morris and he proved to have been wrong. The tumour was a large subperitoneal fibroid, springing from the fundus uteri by a thick pedicle. The case was of interest not only on account of the difficulty of diagnosis, but as a good illustration of an operation upon the pregnant uterus not interfering with the pregnancy.

ABORTION SHOWING RECENT PLACENTAL HÆMORRHAGE.

Shown by Robert Wise, M.D.

CARCINOMA OF CERVIX UTERI IN WHICH THE DISEASE EXTENDED UPWARDS INTO THE BODY.

Shown by Walter Tate, M.D.

The patient was a married woman aged 40, who had had two children. Catamenia were regular up to the middle of April, 1898. Continuous hæmorrhage then commenced, and on examination six weeks later the cervix was found to be hard and infiltrated, bleeding very much when touched. The uterus was freely mobile, and the broad ligaments were not implicated. It appeared to be a very favourable case for operative treatment. Vaginal hysterectomy was performed on June 2nd, but the operation was rendered very difficult owing to the friable condition of the cervix, and to the cellular tissue between the bladder and cervix being diseased. The question arose of abandoning the operation, but it was decided to endeavour to separate the tumour from the bladder. During the separation the bladder wall was injured, but after the removal of the uterus the opening was closed by silk sutures, and gave rise to no further trouble. On opening up the uterus after removal the disease was found to have invaded the whole thickness of the cervix, and extended upwards into the body to within half an inch of the fundus. Another interesting point in the case was the extensive amount of disease present in spite of the short history of hæmorrhage. The fact that the patient had not been living with her husband for a year would probably account for the late occurrence of the hæmorrhage. The case also illustrates the difficulty of deciding what may or may not be a suitable case for operation. The presence of infiltration of the cellular tissue between the bladder and cervix is a fact which it is usually only possible to discover after the operation has

been commenced, as it does not necessarily cause any impairment of mobility of the uterus, and cannot be made out by bimanual examination.

INCARCERATED OVARIAN DERMOID IN THE MIDDLE OF PREGNANCY; MANUAL ELEVATION; REMOVAL A FORTNIGHT AFTER DELIVERY AT TERM.

Shown by Herbert R. Spencer, M.D.

The specimen shown is a dermoid tumour of the left ovary measuring $4\frac{3}{4} \times 3\frac{1}{4} \times 2\frac{1}{3}$ inches, and possessing interest from the circumstances in which it was observed.

M. M—, aged 38, had had nine children, the first eight of which were born easily as vertex presentations, but the last (June, 1896) with difficulty by the breech.

The patient was sent into University College Hospital on October 4th, 1897, by Dr. Blacker, who had diagnosed pregnancy complicated by an ovarian tumour incarcerated in the pelvis. The patient was four and a half months pregnant, having last menstruated at the end of May. Since that time she had complained of pain of a "niggling and gnawing" character, situated in the left loin and spreading to the sacral region. The pain was at first intermittent, but had been constant of late. During the pregnancy she had been obliged to take medicine on account of constipation.

On the patient's admission the pregnant uterus rose up for seven and a half inches above the pubes. The cervix was high up and pushed forwards by a tumour of the size of a fist, which occupied the left posterior quarter of the pelvis, was almost fixed, somewhat irregular on the surface,

and generally quite hard, though there was one spot at which it felt rather soft, but nowhere could fluctuation be detected. The tumour lay in front of the rectum, and movement of the uterus caused slight movement of the tumour, which, however, could not be pushed upwards without an anæsthetic. Misled by a case I had recently seen, I was inclined to regard the tumour as a uterine fibroid rather than an ovarian cyst.

On October 7th I easily, under an anæsthetic, pushed up the tumour out of the pelvis; it then lay in the left hypochondrium. In this situation it was difficult to examine, but it could be made out to fluctuate, and was thought to be an ovarian dermoid.

As from the history the patient was four and a half months pregnant, and judging from the size of the uterus more advanced than that, it was thought best to allow the pregnancy to go on to full term, and to remove the tumour after delivery. The patient wore an abdominal binder during the rest of the pregnancy, and had no recurrence of the pain from which she had suffered when the tumour was incarcerated in the pelvis.

On February 9th, 1898, the patient was again admitted into the hospital. The tumour caused some bulging, and fluctuated in the left flank; the half-girth at the umbilicus was twenty-one inches on each side. The child was lying in the first vertex position. Labour set in definitely at midnight of March 5th–6th. Pains were good. The os was fully dilated by 2.15 a.m., and the child, which weighed 8 lbs. 13 oz., was born easily at 2.45 a.m. on the 6th, in the first vertex position. After delivery, which was quite normal, the tumour lay above the uterus, and reached up for five and a half inches above the pubes. The puerperium was normal, the temperature and pulse only once reaching 100.

On March 21st, 1898 (fifteen days after delivery), I removed by laparotomy the tumour shown. It had apparently not increased at all in size during the five months it had been under observation. The pedicle was twisted

half a turn by the tumour rotating in the opposite direction to that of the hands of a clock when the tumour was held and viewed by the operator standing on the patient's right. The convalescence was uninterrupted, the temperature not rising above 100·4°, and the pulse not above 108. The patient suckled her infant from the first day after the operation, and left the hospital quite well on April 16th with the infant, which was thriving, and weighed 10 lbs. 5 oz.

I think that most experienced ovariotomists will agree that apart from pregnancy ovarian tumours should be removed as soon as practicable after the diagnosis is made, and that generally the same rule applies in the first half of pregnancy; during the second half of pregnancy there will be a difference of opinion as to its applicability in the case of a small tumour which either is in the abdomen, or can be safely pushed up out of the pelvis. In the latter half of pregnancy the risk of premature labour and perhaps of slipping of the pedicle ligature is greater, a longer incision may be necessary, and there is more difficulty in accurately suturing the wound, and increased risk of hernia at the scar from the continual increase in the tension of the abdomen. In the case of a large tumour or of a small incarcerated tumour which cannot safely be pushed up into the abdomen these increased risks should be taken; but for small moveable tumours I believe the practice adopted in the above case is generally to be preferred.

Dr. Peter Horrocks pointed out that cystic tumours when under great pressure became so tense as to simulate solid tumours, in that they felt quite hard, and no thrill and no fluctuation could be obtained. This was very clearly shown in this case, because after the dermoid cyst, which felt solid whilst under pressure in the pelvis, had been pushed up into the abdomen and so relieved of the pressure, it at once became obvious that it was cystic, and fluctuation was easily obtained. He mentioned a case of a multilocular suppurating ovarian cyst which obstructed labour at term, and which was diagnosed as a fibroid owing to the solid feel of it. It was tapped and subse-

quently more freely opened *per vaginam,* and emptied sufficiently to allow of delivery of the child. This case occurred many years ago, and the patient subsequently had a discharge of pus through the abdominal wall and *per rectum* which exhausted her. He did not think any rigid rule could be made with regard to the best time for removing tumours when complicated by pregnancy. Each case must be considered on its merits; but he certainly thought Dr. Spencer had done the best thing in this case by waiting until after parturition before doing abdominal section.

Dr. Spencer in reply said he quite agreed with Dr. Horrocks as to the difficulty of distinguishing between cystic and solid tumours in the pelvis during pregnancy. Fibroid tumours, ovarian cysts, and hydatid cysts closely resembled each other under these circumstances, and the diagnosis between them was only easy for the inexperienced. He noticed that Dr. Horrocks had some years ago tapped a suppurating tumour, but he was sure that now-a-days Dr. Horrocks would remove the tumour. Suppuration not uncommonly occurred in ovarian tumours after labour, either from bruising or strangulation or external infection. Should suppuration occur or threaten he would at once remove the tumour; he had done this in five suppurating ovarian tumours after labour, with recovery in each case. He saw no objection to operating as early as a fortnight after delivery, or earlier if necessary.

THE SAGITTAL FONTANELLE IN THE HEADS OF INFANTS AT BIRTH.

By Arnold W. W. Lea, M.D., B.S., F.R.C.S.

(Received December 18th, 1897.)

Abnormal fontanelles have been known to be present occasionally in the head of the fœtus at birth for many years. Several of these membranous spaces are described, and of these there is one which is of some interest to obstetricians, namely, the *sagittal fontanelle.*

The head of the infant at birth is usually completely ossified except along the lines of the sutures, and at the anterior, posterior, and lateral fontanelles. If, however, a systematic examination of the heads of children at birth be made, areas of deficient ossification will be found to be not uncommon. This is more especially to be observed along the course of the sagittal suture and over the region of the parietal bones, but at times other membranous spaces are found.

The following observations are based upon the examination of 500 consecutive cases at birth.

Four abnormal fontanelles have been described.

1. The *naso-frontal,* a small space, first described by Henry in 1869, between the lower inferior angles of the frontal bone and the nasal bones.

2. The *cerebellar,* of which an instance is also recorded by Henry. It is situated in the median line, close to the base of the occipital bone.

3. The *medio-frontal,* situated a little above the root of the nose, between the two frontal bones. According to Gerdy, this is met with in one per cent. of cases examined at birth, and may persist for some months, as in a case recorded by Hémy.

These fontanelles are extremely rare. In this series of cases I have observed one example of the medio-frontal space, and none of the cerebellar or naso-frontal. They are of no obstetrical importance, and we need not further consider them. They may, however, at times become the seat of a meningocele.

4. The *sagittal fontanelle* was first accurately described by Gerdy in 1837.

It is remarkably constant in position, being situated two centimetres in front of the posterior fontanelle, and is always on a transverse line drawn between the two parietal eminences. The size and shape of the fontanelle vary considerably. In a typical case it is lozenge- or diamond-shaped, the long diameter being transverse, and its extremities directed towards the parietal eminence on each side. The average length is $1\frac{1}{2}$ cm. ($\frac{3}{5}$ of an inch), and it is 1 cm. or $\frac{2}{5}$ of an inch in width. The size, however, is subject to great variation. In very slight cases it may be little more than a mere notch in the course of the sagittal suture; whereas in other instances the space may extend laterally almost to the parietal eminence, forming then a membranous space as large as the anterior fontanelle. Again it may only be developed unilaterally. It then forms a triangular membranous space of variable extent. This was described by Gerdy, and one instance is recorded by M. Hémy. The edges of this membranous space are usually formed of well-developed bone, but at times, as will be seen, there is deficient ossification of the posterior parts of the parietal bones in addition.

Frequency.—In 500 consecutive cases a well-marked sagittal fontanelle was found to be present in 22 instances, thus giving a frequency of 4·4 per cent. This agrees fairly well with the percentages observed by others.

In each of these cases a well-marked membranous space was present. Cases which showed only a notch in the parietal bone in this region were more frequent, and were not included in the table. The fontanelle was lozenge-shaped and bilateral in seventeen cases. It was unilateral and triangular in five cases. In four instances the membranous space extended up to the parietal eminences on each side.

Period of closure.—The fontanelle usually closes within the first three months of life. It has not been possible to verify this for all the cases, inasmuch as some of the children were observed in hospital, and were not seen after three weeks. It is, however, by no means uncommon for the fontanelle to be present in children at a much later period of life. I have at present under observation five cases in which the fontanelle is present, the ages of the children being as follows: two aged 4 months, one aged 5 months, and two aged 8 months.

The space is usually closed in by extension of bone formation from the parietal bones. Occasionally a Wormian bone is developed in this situation.

Development.—The parietal bone is developed in membrane. During the eighth week two bony centres appear in the region of the parietal eminence, and from this point, radiating osteogenic fibres pass towards the borders of the bone. These, however, leave a gap for a time in the region of the parietal fontanelle, forming thus a membranous space. This is usually closed at the end of the third month of fœtal life. In most cases, however, even at the end of the fifth month a trace of this fontanelle will be found.

The parietal fontanelle may persist throughout life, forming then the well-known parietal fissures; and the parietal foramina, present in the majority of adult skulls, and transmitting a small vein, are the remains of this fontanelle. M. Broca, in 1875, read a paper on this subject of the parietal fissure, and showed several skulls in which a large membranous space existed in this region, and others

showing a large circular parietal foramen on each bone. M. Gratiolet has also pointed out that in the ancient troglodyte skulls these fissures and large parietal foramina are very common. They are also now met with more frequently in the lower races of mankind.

Significance.—The parietal fontanelle has a certain amount of importance in practical midwifery.

In the *first* place, the presence of a large sagittal fontanelle may cause difficulty in diagnosing the position of the child's head in the pelvis. In fact, it was this difficulty which first drew my attention to this subject. When well developed this space closely resembles the anterior fontanelle, and can only be distinguished from it by careful palpation of a considerable area of the child's head. It is found to be situated within one inch of the small posterior fontanelle, and there is also no tendency for the bony margins of the space to override as in the case of the anterior fontanelle.

Secondly, it is certain that deficient ossification in this region, and especially the presence of a sagittal fontanelle, is an important factor in the moulding of the child's head during labour. Budin has shown that in vertex presentations the parietal bones become more convex in an antero-posterior direction, forming an arc of a circle of continually diminishing radius. It will be found, if the child's head be examined immediately after labour (in occipito-anterior presentations), that the summit of the longitudinal convexity of the parietal bones is at the position of the sagittal fontanelle.

Thirdly, in cases when this fontanelle is large, and more especially if it is unilateral, it may be thought that the skull has sustained a fracture during natural delivery, or by the use of the forceps. Sometimes a hæmatoma is developed in this situation, which in one instance showed distinct pulsation transmitted from the cerebrum.

I have not been able to find any recorded instance of meningocele having been observed in this situation.

Note on Deficient Ossification of the Parietal Bones.

It will be observed from the table of cases that the parietal fontanelle is frequently associated with deficient ossification of the posterior parts of the parietal bones. Thus in six cases more or less bony deficiency was observed, *i. e.* in 27·2 per cent. of cases. This is undoubtedly a much larger proportion than is observed generally in the heads of infants at birth, and points to the conclusion that the parietal fontanelle must be considered as an abnormal condition, the result of delayed ossification.

There does not appear to be any connection between the presence of the parietal fontanelle and the nutrition of the mother or fœtus.

The vast majority of the infants were well developed in every other respect, and of average weight.

In only one case was there any evidence of congenital syphilis.

Conclusions.

(1) The sagittal or parietal fontanelle is present in 4·4 per cent. of infants at birth.

(2) It is usually bilateral and lozenge-shaped (76 per cent.), more rarely it is unilateral and triangular (24 per cent.).

(3) It closes within the first two months of life, but at times may remain open for at least eight months after birth, and possibly longer.

(4) It is frequently associated with deficient ossification of the posterior parts of the parietal bones.

(5) Its presence does not appear to be associated with any constitutional condition of the infant or the mother.

(6) During delivery it may lead to error or confusion in diagnosing the presentation.

(7) It is probably of some use in facilitating the moulding of the head in vertex presentations.

(8) It may simulate fracture or injury of the skull.

List of Cases in which the Parietal Fontanelle was present.

No.	Period of gestation.	Weight of infant.	Character of labour.	Description of fontanelle.	Maternal history.	Remarks on condition of mother.
1	Full term	6 lb. 7 oz.	Forceps	Unilateral fontanelle (right) recognised during first stage of labour	Primipara, æt. 32	—
2	„	7 lb. 5 oz.	„	Unilateral fontanelle (right); deficient ossification in posterior part of right parietal bone; hæmatoma	Primipara, æt. 19	Very anæmic.
3	8½ mos.	5 lb.	Natural	Bilateral fontanelle	Primipara, æt. 22	—
4	Full term	7 lb. 5 oz.	Low forceps	Bilateral fontanelle (observed during labour)	Primipara, æt. 30	Developed acute mania.
5	„	5 lb.	Natural	Bilateral fontanelle	Primipara, æt. 22	—
6	„	7 lb. 6 oz.	Low forceps	Bilateral fontanelle; deficient ossification of posterior portion of right parietal bone (observed before applying forceps)	Primipara, æt. 27	Syphilis.
7	„	7 lb. 1 oz.	Natural	Unilateral fontanelle	4-para	—
8	„	7 lb. 4 oz.	„	Unilateral fontanelle extending almost to parietal eminence	2-para	—
9	Full term	7 lb. 3 oz.	Natural	Bilateral fontanelle	Primipara, æt. 17	—
10	„	7 lb. 5 oz.	„	Bilateral fontanelle	3-para, æt. 27	—
11	„	7 lb. 10 oz.	„	Bilateral fontanelle	2-para, æt. 28	Had phthisis.
12	„	6 lb. 3 oz.	„	Bilateral fontanelle; bony deficiency of posterior part of both parietal bones (observed during labour); has also talipes	Primipara, æt. 35	—

No.	Period of gestation.	Weight of infant.	Character of labour.	Description of fontanelle.	Maternal history.	Remarks on condition of mother.
13	8 mos,	5 lb. 13 oz.	„	Large bilateral fontanelle	Primipara	—
14	„	4 lb. 2 oz.	„	Bilateral fontanelle; deficient ossification of posterior portions of both parietal bones	Primipara, æt. 25	Had mitral stenosis.
15	Full term	7 lb.	„	Large bilateral fontanelle reaching parietal eminence	Primipara, æt. 31	—
16	„	7 lb. 10 oz.	„	Bilateral fontanelle	Primipara	—
17	„	5 lb. 8 oz.	„	Bilateral fontanelle; deficient ossification over both parietals posteriorly (has spina bifida)	Multipara	—
18	„	6 lb. 12 oz.	„	Bilateral fontanelle; deficient ossification of left parietal bone, with hæmatoma	Multipara	—
19	„	7 lb.	Forceps	Large bilateral fontanelle	Multipara	—
20	„	6 lb. 4 oz.	Natural	Unilateral fontanelle	Primipara	—
21	„	7 lb.	„	Bilateral fontanelle	Primipara	—
22	„	—	„	Bilateral fontanelle	Multipara	—

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Augier.—'Sur les Trous parietaux,' Thèse de Paris.

Broca.—'Bullet. Soc. d'Anthropologie de Paris,' 1875.

Budin.—'Tête du Fœtus,' p. 170.

Cazeaux.—'Art des Accouchements.'

Gerdy.—'Recherches d'Anatomie,' &c., Thèse de Paris, 1837.

Hémy.—'Fontanelles anormales du Crâne humain,' Paris, 1871.

Quain.—'Anatomy,' vol. i, p. 2.

Dr. HERMAN thought the Society was to be congratulated on having the laborious and careful investigation of Dr. Lea. Two practical points arose out of it. The first was that a sagittal fontanelle might mislead one who diagnosed the fœtal position by feeling the sutures and fontanelles. But this would not trouble one who was accustomed to diagnose the position by abdominal palpation. The second was that a sagittal fontanelle indicated backward ossification, which would enable the head to undergo considerable moulding; its presence, therefore, might invite a trial with forceps in a case which with a very hard head would call for perforation.

Dr. HERBERT SPENCER was surprised to hear that the fontanelle had been found in 4·4 per cent. of the cases examined. He asked Dr. Lea whether his observations were clinical or post-mortem. He (Dr. Spencer) was well acquainted with fissures in the parietal bone, which were common, and every obstetrician knew how depressible the upper edge of the parietal bone often was; what was really only a fissure might therefore appear under pressure of the finger as a space; but having carefully examined the skulls of over 300 new-born infants post mortem, he had not met with one instance of a sagittal fontanelle at all comparable to the anterior fontanelle. He had, however, met with a fenestra on two occasions, and also with insular ossification and total absence of ossification in the parietal bones of mature fœtuses. He gathered that Dr. Lea's observations were made on the living infant, but he (Dr. Spencer) had no doubt that as a considerable anatomical space the sagittal fontanelle occurred with much greater rarity than that given by Dr. Lea as a result of his clinical observation.

Dr. LEA stated that the percentage of cases of parietal fontanelle observed by him was similar to that of Mr. Hémy. In many infants the fontanelle became much smaller a few days after birth, but in children some months old instances in which it remained open were not uncommon. He had examined two cases in which the infants died soon after delivery. In one instance a linear fracture extended from the fontanelle outwards over the parietal eminence, the result of injury during delivery.

NOTE ON SOME DIFFICULT CASES OF FRONTO-ANTERIOR POSITIONS OF THE FŒTAL HEAD.

By George Roper, M.D.,
CONSULTING PHYSICIAN TO THE ROYAL MATERNITY CHARITY.

(Received March 7th, 1898.)

After an extensive experience in difficult labours, I never felt satisfied with the knowledge I had of the nature and correct treatment of the difficulties connected with the fronto-anterior positions of the fœtal head in labour. Given a child of ordinary size and a fairly formed pelvis, most of these cases will end naturally. But with a child beyond average size, or with a small or slightly misshapen pelvis, considerable difficulties occur. It was not till reading Dr. Herman's remarks in his book on 'Difficult Labour' that the problem was solved to me.

Dr. Herman particularly calls attention to the position of the fœtal *trunk, abdomino-anterior,* and gives directions for its diagnosis by abdominal palpation when conditions are favourable for such an examination, as the absence of a thick layer of abdominal fat. But diagnosis by this method is not necessary, for if we can feel the fœtal head in a fronto-anterior position, this is a certain index that the trunk is in a position abdomino-anterior. Dr. Herman's directions as to rotating the trunk into an abdomino-posterior position are of first importance, and if possible rotation should be effected. For its successful performance we require—

(1) An abdomen not thickly covered by fat.

(2) Unruptured or but recently ruptured membranes.

(3) A non-contracted state of the uterus.

If the trunk can be rotated, rotation of the head will follow. If there is failure in rotating the trunk, the head must be dealt with.

Dr. Herman sums up the treatment :

A. To pull.
B. To flex.
C. To rotate.

In many of these difficulties delivery is not effected by any of these proceedings. Long-continued and forcible traction with forceps will fail. The instrument cannot be easily fitted to the head in the fronto-anterior position. There is difficulty in locking the blades without injurious pressure on the fœtal head. The instrument will often slip (unless each blade is pushed up beyond the occipital pole, and then the head is grasped in its widest diameter—bi-parietal), and hence hurtful pressure on the cranium may result.*

It is evident that the position of the head is dependent on that of the trunk. I hope to demonstrate by reports of two cases that the greater difficulty in delivery is due to the dorso-posterior position of the trunk, and that the position of the head is a minor factor of the difficulty. The dorsal surface of the fœtus is composed of parts which are firm and incompressible. They are the upper part of the dorsal spine, the scapulæ, the backs of the ribs, and the backs of the shoulder-joints. These parts pressed on

* I have seen intra-cranial hæmorrhage from such pressure. I was once called to the assistance of an experienced and careful practitioner in such a case. Severe pressure had been made on the head to secure the locking of the forceps. Long-continued and forcible traction had been used with no good result. On attempting to withdraw the forceps one blade came away easily but the other could not be withdrawn. I passed my hand along the blade and found a compound dislocation of the posterior inferior angle of the parietal bone. The sharp point of bone had passed through the fenestra of the blade and fixed it. When the angle of bone was pushed back the blade was easily withdrawn.

the lower lumbar vertebræ throw the trunk into a state of extension; the shoulders are thrown back or squared, the distance from point to point of them being increased; the fœtus cannot be folded into a compact ovoid form as in the abdomino-posterior position. So far as I know none of the text-books refer to these conditions as constituting the difficulty.

Case 1.—Mr. Perry, surgeon of Reepham, Norfolk, asked me to assist him in a case of difficult labour. The patient was a young woman in labour with her second child. Her first child was born alive after a very hard labour. The abdomen was loaded with fat, the liquor amnii had been long discharged, so there was no hope of rotating the trunk. The head was fronto-anterior, and the scalp much swollen. Long-continued and forcible efforts had been unsuccessfully made with forceps. The patient was much exhausted. Perforation was decided on. The head was reduced to the smallest dimensions by the cephalotribe. Traction with this instrument firmly secured on the remains of the head failed to bring the shoulder through the pelvic brim. The craniotomy forceps and crochet were used without success. Podalic version was attempted, and with some little difficulty a foot was secured and brought down as far as the brim. A loop of cord was passed round the ankle, and by traction on this and pushing the head upwards version was completed.*

Case 2.—This same patient in her third labour again had a fronto-anterior presentation. This time she was attended by Dr. Bansall of Aylsham, Norfolk. The conditions in this labour were much the same as in the

* In podalic version of this kind there is some difficulty in bringing down the foot, as the head occupies the brim. Many years ago Messrs. Krohne and Sesemann made an instrument for me for snaring a foot. Armed with a stiff kind of material—as a piece of leather boot-lace, whipcord, or catgut (I prefer these materials, as they do not become soaked by fluid as tape does)—a noose is easily slipped over the foot, and by a few turns of the instrument is securely fixed round the ankle. The idea is taken from Braun's instrument.

former one. Forceps had been used to the utmost extent as regards both duration and force. Dr. Bansall asked me to see her, and I decided to deliver by podalic version. The hand was passed up one of the sacro-iliac angles, and a foot brought down to the pelvic brim and snared as in the former case. The child lived, and the mother made a good recovery.

I have recorded the first case to demonstrate that as the crushed head could not have been the obstacle to delivery, this obstacle must have been the shoulders at the brim, the trunk being dorso-posterior. So far as I know, no text-book refers to this position as the cause of the difficult delivery, except what is given in Dr. Herman's work. But in treatment he says nothing about podalic version.

In performing this operation, if in gently bringing down a foot the toes are directed towards the mother's back the abdomen will readily turn in the same direction. It is important that the trunk should be rotated into an abdomino-posterior position. The cases I have recorded are only two, and it may be remarked that they are not sufficient for a correct conclusion to be drawn from them; but I could give many others which occurred to me during my term of office in the Royal Maternity Charity. I believe that in such cases, after a moderate trial with forceps, podalic version is the correct mode of delivery in the interest of both mother and child. In future I should prefer to call these cases *abdomino-anterior* rather than fronto-anterior, to emphasise the importance of the position of the trunk in making labour difficult.

Dr. Herman thought that Dr. Roper had done service in calling attention to the fact that the mechanism of delivery did not depend only upon the relation of the head to the pelvis. The position of the trunk affected that of the head when the occiput was behind, in that the fœtal spine, having opposed to it the lumbar convexity of the mother's spine, was apt to become extended. This extension carried the occipito-spinal joint in front of the line along which the fœtal axis pressure acted, and

thus led to extension of the head. He could also understand that, as Dr. Roper pointed out, when the fœtal spine was flexed, and its concave abdominal aspect applied to the mother's lumbo-sacral convexity, it would enter the pelvis more easily that when the reverse condition obtained.

Dr. Peter Horrocks quite agreed with Dr. Herman and Dr. Roper, both in regard to the fact that the uterine forces tended to drive the head into increased extension, and to the probable explanation that it was owing to the spine of the child being thrust forwards by the convexity of the lumbar spine of the mother. But he thought this only obtained when the head had descended a little way only. After its descent still further into the pelvis the body of the child got thrown further forwards, and the uterine forces then tended to flex the head. The various conditions enumerated by Dr. Roper in regard to the possibility of rotating the child resolved themselves really into one thing, namely, the mobility of the fœtus *in utero.* Where there was good mobility, as when the membranes were unruptured, or only recently ruptured, then the proper thing to do was to rotate the child so as to bring the occiput in front. Where the mobility was not good, but was still present to some degree, as when the liquor amnii was scanty, or where it had drained away for some time, then rotation might be impossible, but version might be possible. Lastly, when there was very little or no mobility, as when the liquor amnii had drained away almost entirely, and the uterus had contracted down on the child, then it would be highly dangerous to attempt either rotation or version, and the proper thing to do was perforation and diminution of the bulk of the child's head by cephalotripsy if need be.

OCTOBER 5TH, 1898.

C. J. CULLINGWORTH, M.D., President, in the Chair.

Present—28 Fellows and 1 visitor.

Books were presented by Dr. Playfair, Prof. Ahlfeld, Dr. G. Porter Mathew, the St. Bartholomew's Hospital Staff, and the University at Christiania.

Godfrey D. Hindley, L.R.C.P.Lond., was admitted a Fellow of the Society.

John Edward Gemmell, M.B., C.M.Edin. (Liverpool), was declared admitted.

Francis James Lee, M.R.C.S.Eng., was elected a Fellow.

The following gentlemen were proposed for election :—Arthur Scott Turner, L.R.C.P.Lond.; Haydn Brown, L.R.C.P.Edin.; Charles F. Ward, F.R.C.S.I. (Pietermaritzburg).

CASE OF PUERPERAL SEPTICÆMIA TREATED BY ANTISTREPTOCOCCIC SERUM.

By J. WALTERS, M.B., &c., Reigate, and A. R. WALTERS, L.R.C.P., &c., Reigate.

MRS. F—, multipara, æt. 34. A stout florid woman of phlegmatic type, liable to winter cough, with emphysematous chest. Her last child was born in April, 1895.

She made a fair recovery, but had more or less continuous loss for six months afterwards. She was quite regular after that time till March, 1897, when she missed a period, and in May had severe flooding, but did not call in medical assistance. When the flooding ceased she went about again as usual, but had more or less almost constant loss till the following October; after this she had a foul yellow discharge, occasionally blood-stained. In November she again had a severe loss, followed by irregular hæmorrhages till April last, when she was seen by Mr. A. R. Walters. He found the uterus enlarged and tender; the os œdematous, surrounded by unhealthy granulations with a foul yellow discharge. In consultation with him it was decided to dilate the os and explore the uterus; this was done on May 9th with strict antiseptic precautions; after dilating the os with Godson's dilators the uterus was freely curetted; a large quantity of granulation tissue was removed, and portions of a macerated fœtus; there was pretty free bleeding at the time. After the uterus appeared to be completely empty it was swabbed out several times with carbolic lotion and then with Lin. Iodi. The patient bore the operation very well; she was put on liquid diet with ergotin gr. ij every four hours, and hot iodine douches twice a day.

May 10th.—Patient comfortable, discharge slight, temperature normal.

11th.—Temp. 98·8°, slight pain in right side.

12th.—Discharge slightly offensive; passed the remains of a macerated fœtus of about two months. Temperature a.m. 100·5°, p.m. 99·6°; pulse 85.

13th.—Patient more comfortable, discharge less offensive. Temperature a.m. 98·4°, p.m. 99°; pulse 80.

14th.—Patient going on well, discharge healthy. Temperature a.m. 98·2°, p.m. 100°. In the evening she passed a large fibrinous clot the shape of the uterine interior.

15th.—Discharge somewhat offensive, but patient free from all pain or discomfort. Temperature a.m. 99°, p.m. 98·5°; pulse 80.

16th.—Complained in the evening of intense headache; an urticarial rash appeared on the body; the discharge was more offensive. Temperature a.m. 98·5°, p.m. 102·5°; pulse 100. The uterus was washed out with perchloride of mercury (1 in 2000); ordered quinine gr. iij every four hours. 10.30 p.m., had a severe rigor; temperature 104·5°, pulse 120.

17th.—Patient apathetic and dull, had passed a very restless night; intense headache, tongue dry and brown, objects to food, no discharge. Temperature 8 a.m. 101°, skin dry. At 4.30 p.m. the temperature had gone up to 103°, pulse 120. The patient was evidently suffering from puerperal septicæmia. 10 c.c. of antistreptococcic serum (supplied by Messrs. Burroughs, Wellcome and Co.) was injected over the abdomen. 8.30 p.m., patient bright and cheerful, skin moist. Temp. 98°, pulse 80; headache gone, discharge commencing again.

18th.—8 a.m. temp. 98·8°, pulse 88; headache returning, discharge becoming offensive. 12 noon, temp. 100·4°, pulse 100; headache intense, tongue dry, discharge stopped. 4.30 p.m., pulse 100, temp. 100·5°; headache worse, skin and tongue dry. 10 c.c. of serum was again injected, and the uterus again washed out with perchloride. 8.30 p.m., patient bright and cheerful, skin moist, tongue moist at edges, headache gone. Pulse 75, very weak; temp. 98°.

19th.—Patient had a good night. Temp. 97°; pulse 72; is free from headache, but very weak and depressed; takes no interest in anything; discharge healthy. Ordered as much liquid nourishment as she could take,—champagne, &c.

20th.—Patient much the same, takes nourishment better. Temp., p.m., 99°.

21st.—Much the same.

22nd.—Is not nearly so depressed, and takes food well. Temp. 98°; discharge nearly stopped.

26th.—Patient beyond being extremely weak seems quite well; no pain or discharge, takes food well.

Since this date no fresh symptoms have arisen, and she has been able to move back to her own home.

This case has been recorded simply to illustrate the value of antistreptococcic serum in a very serious case of puerperal septicæmia; there can be no reasonable doubt that the patient's recovery was entirely attributable to its use.

The injection of the second dose was followed by very great depression for several days, so much so as to give rise to considerable anxiety; there was also transitory albuminuria.

Dr. Amand Routh congratulated the author on the success of his treatment. It was difficult, however, to be sure in any given case, where several methods had been adopted, that the successful ending was due to any one of the methods, and he could say that only one out of five or six cases treated by himself had definitely recovered from the septicæmia as a result of the antistreptococcic serum alone. This case was, however, a typical one of general septicæmia, with fixation of the uterus from septic perimetritis. She was seen by him on the fifth day of the disease—the eighth day after labour—and she was apparently dying and too exhausted to justify any local treatment whatever. He gave 10 c.c. of antistreptococcic serum at once, and more was obtained, and the injection repeated the same evening; and instead of dying that night, she rapidly improved, and finally got well, though she had a pelvic abscess which opened into the vagina some days afterwards. He did not think it wise to inject so potent an agent as antistreptococcic serum, and it certainly was not a scientific proceeding unless it had been previously ascertained that the infection in the case was due to the presence of streptococci; and he asked if it had not been shown that injection of the wrong serum had caused very dangerous symptoms. Even if the infection was known to be by streptococci, he hoped that the ordinary modern methods of dealing with early septicæmia would not be omitted, and he especially urged that uterine exploration should be digitally made, and all placental and decidual débris removed by the finger or by curettage.

Dr. Eden said he thought that the point raised by Dr. Routh as to the advisability of determining the nature of the infection before resorting to the use of the serum was a very important one, for antistreptococcic serum was a remedy for streptococcus infection only. A series of three interesting cases had recently

been recorded by Dr. Haultain, of Edinburgh, in which a different form of infection was present in each case. In the first case he obtained pure cultures of Zoeffler's bacillus from the uterine cavity, and the case was accordingly treated with the diphtheria antitoxin with the most successful results. In the second case cultures showed a mixed infection of streptococcus and *Bacillus coli*, and although the antistreptococcic serum was used, no beneficial result followed, and the patient died. The third case was one of simple streptococcus infection, and in this the serum was entirely effectual. Evidence was accumulating that cases in which the *Bacillus coli* was present were all of a grave type; and although at present we were not in possession of an antitoxin for this organism, its recognition was important as a factor in prognosis, and later on the means of treatment might come to hand. If the first of Dr. Haultain's cases had not been correctly diagnosed, and the antistreptococcic serum employed on the off chance of its being the right one, the result might have been very different, and doubt might have been unfairly cast upon the value of the serum treatment.

Dr. Drummond Robinson quite agreed that it would be highly interesting to ascertain what microbe was producing the disease in every case of puerperal sepsis, but he feared that this would be practically impossible. He had investigated a number of cases bacteriologically, but the results had been unreliable. Owing to the kindness of Dr. Champneys and others, he had had opportunities of treating seven cases of puerperal sepsis with the antistreptococcic serum. Five of these patients died, the treatment apparently having no effect. Two of the cases recovered. In one of these the only effect of the injections was that the patient seemed to sleep better afterwards. In the other case the injections seemed to have a strikingly beneficial effect. This patient, seen with Dr. Arthur, of Shepherd's Bush, on the eleventh day after confinement, appeared to be *in extremis*. She had been attended by the nurse, who refused to send for the doctor, and who had (as was afterwards discovered) a suppurating wound on the finger. On the third day the temperature rose, and remained at about 103°. On the eleventh day, when the serum was first used, the whole vagina was covered with a thick white membrane. Pulse 120; temp. 104°; diarrhœa was constant. As membranous vaginitis is produced by the *Streptococcus pyogenes*, injections of antistreptococcic serum were advised, and they were followed immediately by a fall of temperature and an amelioration of the other symptoms. The patient rapidly convalesced.

Dr. McCann said that it was most important to have all the cases carefully recorded where this method of treatment had been adopted. The whole subject was at present in the experimental stage. As it was probable that more than one variety of

microbe was the cause of puerperal septicæmia, so we would require to use more than one antitoxic serum. The important point, however, was that the serum treatment should be commenced at an early stage of the disease, and not after all other methods had been tried and found to fail. By this means the effect of the poison already absorbed would be counteracted, while the usual remedies were applied locally at the seat of production. The early use of an antitoxic serum had given brilliant results in diphtheria, yet in most cases of puerperal sepsis the antistreptococcic serum had only been used as a last resource. Dr. McCann suggested that antistreptococcic serum should be used as a preventive (injected subcutaneously) in cases where sepsis would be likely to follow a miscarriage or full-time labour, *e. g.* retention of decomposing pieces of placenta requiring removal post abortum, and in patients suffering from offensive vaginal discharges before or during labour, these latter cases being found frequently among the lower classes and those suffering from syphilis.

Dr. John Phillips had administered antistreptococcic serum in several cases, but in one only was he certain that the patient's recovery could be attributed to its use. He thought that in every case of septicæmia, before injecting the serum, the uterine cavity should be explored. The patient to whom he alluded was ill for many weeks with acute septicæmia; curettage, although performed twice, failed to produce any benefit; the scrapings showed large quantities of streptococci. As many as twenty injections were given in the course of a twelve weeks' illness. The temperature, which was very high, was always lowered, the delirium ceased, the skin acted, the effect lasting for a few hours. Towards the end of the illness rapidly appearing and disappearing skin rashes showed themselves, and were probably due to some impurity in the serum. The patient ultimately made an excellent recovery, after passing through a sharp attack of broncho-pneumonia. Dr. Phillips thought that examination of the scrapings was of the greatest value; in this case repeated examination of the discharges found in the vagina for streptococci gave a negative result.

Dr. Walter Tate had seen several cases of puerperal septicæmia treated by antistreptococcic serum; in some of them the results certainly appeared to be good. In one case the first two or three injections of the serum were followed by improvement in the patient's condition, but after this further injections failed to give relief; it seemed possible that this may have been a case of mixed infection. Some of the most virulent forms of septicæmia followed the removal of placental polypi, which were sloughing. In spite of every antiseptic precaution, the operation for removal of these was in many cases followed by a severe and protracted form of septicæmia. The suggestion of one

speaker that an injection of antistreptococcic serum should be given prior to operation as a prophylactic measure was valuable.

The PRESIDENT said that although it was always difficult to be certain that improvements in a patient's condition were due to the treatment employed, there seemed in Dr. Walters' case very little room for reasonable doubt that the antistreptococcic serum had saved a life. He did not quite agree with the opinion that had been expressed that the serum ought not to be administered until it had been definitely ascertained that the offending microbe in the case under observation was the streptococcus. He called attention to an important paper in the last (80th) volume of the 'Medico-Chirurgical Transactions,' by Mr. Herbert Durham, "On the Clinical Bearing of some Experiments on Peritoneal Infections," and read some extracts from it which went to show that the streptococcus was more frequently present in these affections than any other microbe. "Much evidence," says Mr. Durham, "has been adduced to show that peritonitides and abscesses arising during the puerperium or after abortions are to be ascribed to streptococcal infection. . . . Tavel and Lanz . . . report twenty-eight cases with streptococci out of a total of forty-one. . . . There is much evidence that *Bacillus coli* is pathogenic for man (abscesses, empyemata, &c.), and I am far from denying that it may have a *rôle* in certain cases of peritonitis, either of itself or as a participator in mixed infections. However, in a large proportion of the cases examined cocci (especially streptococci) were a prominent feature." This being the case, and the antistreptococcic serum being at present the only antitoxin available for use in these affections (no similar solution having yet been prepared from the staphylococcus or *Bacillus coli*), it seemed to him (the President) that we ought to give our patients the benefit of the doubt and administer the antistreptococcic serum in cases of puerperal septicæmia without waiting for bacteriological investigation. In the first place the delay might involve the loss of valuable time, and in the second place it was only in the hands of an expert—if always even then—that the results of such an investigation could be accepted as conclusive. We had learnt now how to prevent puerperal infection, and were gradually acquiring trusty weapons wherewith to combat the results of puerperal infection when, in spite of our care, it made its appearance. The safe rule of practice, whenever we found ourselves face to face with symptoms of blood-poisoning after labour or after abortion, was, firstly, to make sure by digital exploration, under an anæsthetic, that there were no decomposing clots or fragments of adherent tissue in the uterine cavity; and if, after the uterus had been by this means emptied or proved to be empty, the symptoms persisted, to administer the antistreptococcic serum without delay. It might be that in the near future other antitoxins would be

placed in our hands, but in the meantime it was our bounden duty to avail ourselves of the one we already possessed. He had himself seen several cases in which there seemed the strongest reason to credit the antistreptococcic serum with the saving of life. It had been said that it might do harm instead of good. This he doubted. In the only instance in which he had personally known unfavourable symptoms to follow its administration, inquiry had elicited the fact that the preparation used was not fresh; it had been kept for some time, and had, no doubt, undergone deleterious change. He desired to utter a word of warning against placing reliance on the intra-uterine douche as a means of ensuring the removal of decomposing débris from the uterine cavity. When such débris was present it was usually adherent to the wall of the cavity, and no amount of douching would separate and remove it. The habitual use of the finger for this purpose was necessary to success, and the general recognition of this fact would be an enormous step in advance. He complimented Dr. Walters on the success of his case, and thanked him for having brought it before the Society. He was sure that the discussion it had elicited would have beneficial results upon practice, and could not be otherwise than gratifying to the authors of the paper.

Dr. J. Walters, in reply, said he wished to thank the President and Fellows for their favourable reception of his paper. He entirely agreed with the opinion of the President that in cases of this kind, if such measures as thoroughly emptying the uterus and douching with perchloride of mercury failed to check the symptoms, the only resource was serum injection, and he was only too glad to have such a measure to fall back on in these most distressing cases. With regard to the serum employed, in the absence of bacteriological investigation, which was impossible in a country district, owing to the loss of time it would require to submit a scraping from the uterus to a skilled bacteriologist, he considered the use of antistreptococcic serum most likely to be followed by beneficial results. The end justified the means employed, for he had no doubt whatever, considering the immediate improvement that followed the use of the serum on both occasions, that the patient's life was saved by the injections. He was glad to be able to report that the patient was now in excellent health.

EARLY ECTOPIC GESTATION (? TUBO-UTERINE) COMPLICATED BY FIBRO-MYOMATA OF THE UTERUS. (See Plates VII, VIII, and IX.)

By Chas. J. Cullingworth, M.D.

It may be in the recollection of the Fellows that I exhibited at the meeting held in November of last year (1897) a specimen consisting of the uterus and appendages, removed, by the operation of abdominal hysterectomy, for ectopic gestation complicated with fibro-myomata and what was thought to be a pelvic hæmatocele. The mass that had been taken for a hæmatocele proved to be a sac containing blood-clot and an embryo of about the middle of the third month. The head and both lower extremities of the embryo protruded from one end, and the sac was connected by a narrow pedicle with a soft swelling at the right cornu of the uterus which had not then been opened, but which was believed to be a gestation sac formed partly of the uterus and partly of the Fallopian tube. It appeared as though the fœtus had effected a bloodless escape, there being no extravasated blood, encapsuled or otherwise, in the peritoneal cavity.

The specimen was shown in order that the Fellows might have an opportunity of seeing the parts exactly as they were when removed from the body, before being in any way disturbed. I promised to furnish the Society, at a future meeting, with a further account of the specimen and a detailed history of the case. In accordance with this promise, I have now the pleasure to communicate the following particulars.

A married woman, aged 33, by occupation a shirt collar dresser, was admitted into St. Thomas's Hospital on the 4th September, 1897, said to be suffering from retrover-

sion of the gravid uterus. Attempts had been made at home to reduce the supposed displacement, but without success. The history given by the patient was briefly as follows :

The catamenia commenced at the age of twelve. Nineteen years ago, while still unmarried, the patient gave birth to a full-term living child. Breast abscess and some other troubles followed, necessitating a long confinement to bed, but there is no evidence of any abdominal or pelvic complication. She was married thirteen and a half years ago, but has not again become pregnant until the present occasion. She last menstruated during the last week of April, 1897. Five weeks after that, when a week over her usual period, she fell down some steps and had pain in the back and abdomen. This passed off, but returned about three weeks later and continued, gradually increasing in severity. A fortnight before admission she passed some blood-clots, and since then there has been a slight pinkish offensive discharge. For the past five weeks sickness has occurred every evening.

The house physician finding a tumour in Douglas's pouch, in which he thought he could detect fœtal parts, accepted the diagnosis of the patient's medical attendant, and made another attempt under an anæsthetic to raise the mass out of the pelvis. He reported that he had only partially succeeded, an unreduced portion still remaining in the pouch of Douglas, though the limbs and solid parts of the fœtus had been released. The patient on this occasion only remained four days in the hospital. Before she left I examined her, and made some further attempts at complete reduction, by drawing down the cervix with a volsella, and at the same time pressing the posterior mass upwards, but without success. I was somewhat puzzled to understand the reason for these repeated failures, but did not at that time seriously suspect the correctness of the diagnosis. There was no discharge during her stay in the hospital. The temperature

varied from 98° to 99·6°. Some abdominal pain was complained of during the whole time.

On October 1st the patient was readmitted, complaining of severe and increasing pain in the lower part of the abdomen, constipation, difficult and painful micturition, and a dark-coloured hæmorrhagic discharge, not offensive. These symptoms came on two days after patient left the hospital, and have continued.

On October 5th she was examined under an anæsthetic. The cervix, sufficiently patulous to admit the index finger as far as the os internum, pointed downwards and slightly backwards. Resting upon the anterior vaginal wall was a solid, rounded, slightly moveable, firm swelling, estimated as equal in size to a small orange, and continuous above with the uterus. This was obviously the anteflexed body of the uterus or a growth connected with the anterior wall. With some misgivings I determined to settle the matter by passing a sound. The sound passed up almost vertically, and behind the mass described, a distance of four and a half inches. This showed that the swelling was a solid tumour in the anterior wall of the uterus, and that the uterus was empty. Occupying Douglas's pouch was a firm, soft, elastic, smooth swelling, incapable of being raised, or of being separated from the back of the cervix. This swelling caused slight depression of the vaginal roof posteriorly. It appeared to be continuous with a mass that occupied and filled the left posterior fossa of the pelvis. No swelling could be felt in the right posterior fossa. The inference I drew from this examination was that the former diagnosis had been erroneous, that the uterus was enlarged from the presence of one or more fibro-myomata, and that the mass felt posteriorly was a pelvic hæmatocele, due to an arrested tubal gestation. I determined to watch the case, and to interfere only if the swelling behind the uterus failed to undergo diminution. Careful measurements were taken from time to time.

On October 6th the distance from the top of the pubes

to the upper limit of the abdominal swelling was six inches, and to the umbilicus seven inches. The distance from the umbilicus to the ant. sup. iliac spine on the right side was six and a quarter inches, on the left six inches. Above the pubes was a hard, round, solid tumour, about 4 in. × 3 in. This was the growth in the anterior wall of the uterus already alluded to as resting upon the anterior wall of the vagina. In the left lumbar region was another hard, round, solid swelling, situated more deeply, and of somewhat smaller size. This was continuous with the body of the uterus, which, as defined by the sound, was situated in the middle line. Behind and to the right of the body of the uterus was a softer, less defined swelling, rising above the level of the fundus, and extending outwards to a distance of three inches from the middle line. No fœtal heart-sounds were audible. A souffle was heard on the right, midway between the umbilicus and the anterior superior iliac spine. There was dulness on percussion over the most prominent and lower swelling. Elsewhere the note was resonant throughout. No fluid could be expressed from the breasts, which were flaccid. The urine was normal.

During the next fortnight the measurements remained practically unaltered. There were attacks of pain, occasionally severe. A slight vaginal discharge of dark red colour occurred continuously. The temperature was normal, and the general condition satisfactory. An exploratory operation was now proposed and assented to.

On October 21st an incision five inches long was made below the umbilicus in the median line. A small quantity of free clear watery fluid escaped. Some superficial adhesions were easily separated. On introducing the hand, the main mass of the swelling was felt to consist of the uterus with solid outgrowths. In the situation of the right cornu was a large, tense, soft swelling, with the characters of a hæmatosalpinx. Passing the hand down behind the uterus, another soft swelling was found occupying Douglas's pouch and universally adherent to

its walls. On the top of this and projecting from it in front was a small, irregular, round body, the size of a large marble, giving to the examining finger a very peculiar sensation. This proved afterwards to be the head of a fœtus. After careful separation of the mass in Douglas's pouch, the abdominal incision was enlarged, and the whole mass brought out of the wound into view. The part that had been lying in the pouch of Douglas was now seen to be a fœtus, surrounded by membranes, the head and lower limbs alone protruding. (See Plates VIII and IX.) There was no free blood in the pelvis or in the abdominal cavity. A band of tissue connected the fœtus with the swelling at the right cornu.

It being now evident that there had been ectopic gestation, with escape of the fœtus, and it being impossible to remove the gestation sac without removing the uterus, it was decided to perform abdominal hysterectomy, removing the uterus at the junction of body and cervix, along with the gestation sac, myomata, and uterine appendages. The broad ligaments having been transfixed, tied, and divided in the manner I usually adopt, and the uterine artery on each side having been secured, anterior and posterior flaps were dissected off the uterus, and the whole mass was cut away immediately above the cervix. No bleeding occurred, except from the left ovarian artery, which was found to have escaped from the ligature and had to be tied afresh. A second ligature was also placed upon the right ovarian artery as an additional safeguard. The stump was covered in by turning in the flaps and stitching them together over it. The cut edges of the broad ligament were stitched together on each side, the cavity of the pelvis was cleansed, and one or two bleeding points in the right broad ligament were secured. The abdomen was then closed by through and through sutures of silkworm gut, a continuous catgut suture having been passed through the edges of the rectal sheath before the through sutures were tied. The operation occupied about two hours.

Description of parts removed.—The mass removed consists of the body of the uterus with its appendages. Suspended from it posteriorly is a membranous sac, containing a fœtus (and probably some blood-clot), the head and lower limbs of the fœtus protruding from one end of the sac (Plate VIII). The whole uterine mass is roughly heart-shaped. It measures six inches in breadth, five inches from above downwards, and two and a half inches from before backwards. The length of the uterine canal is two and three eighths inches. The distance between the two Fallopian tubes at what appears to be their uterine origin is four inches. The distance between the two round ligaments at their uterine origin is three and a quarter inches. The distance between the uterine origin of the Fallopian tube and that of the round ligament is five eighths of an inch on the left side, and on the right side two inches. The length of the straightened out Fallopian tube on the left side is over five inches, on the right side eight inches. Both Fallopian tubes are normal in appearance near their uterine end, but dilated and convoluted as they pass outwards. Their abdominal ostia are closed by adhesion to the ovaries. The right tube is considerably more dilated than the left. The ovaries are of full size; the right contains several small cysts into which hæmorrhage has occurred (Plate VII).

There is a subserous myoma the size of a small orange growing from the lower part of the anterior aspect of the body of the uterus. Another about the size of a hen's egg springs from the posterior and left aspect of the fundus. Both are sessile. There are several others varying in size from a pea to a marble. At the uterine end of the right Fallopian tube is a soft rounded swelling with fluctuating contents, equal in size to an orange (Plate VII). This swelling appears to contain blood, and to be formed partly at the expense of the intra-uterine portion of the tube, and partly at the expense of the portion of tube immediately outside the uterine wall.

From this swelling projects a band of tissue an inch in

DESCRIPTION OF PLATE VII.

Illustrating Dr. Chas. J. Cullingworth's case of Early Ectopic Gestation (? tubo-uterine) complicated by Fibro-myoma of the Uterus.

View from the front and above.

A. Interstitial fibro-myoma in anterior wall of uterus.

B and C. Gestation sac filled with blood-clot, forming projections similar in appearance to, but softer in consistence than, those formed by the fibro-myomata.

D. Interstitial fibro-myoma in posterior wall of fundus uteri.

E. Right Fallopian tube (8 inches).

F. Left Fallopian tube (5 inches).

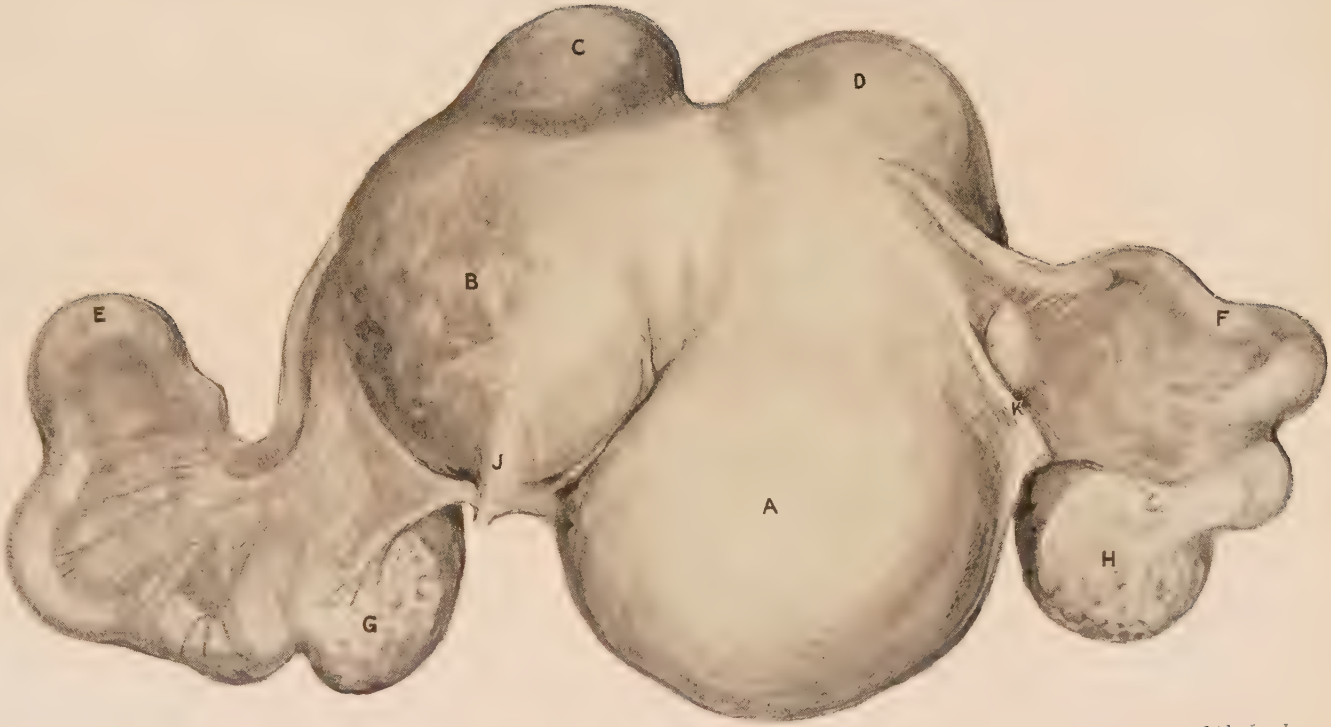
G. Right ovary.

H. Left ovary.

J. Right round ligament, with point of uterine origin displaced outwards by the gestation sac.

K. Left round ligament, normal.

(Drawn by R. E. Holding.)



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Ectopic gestation with fibro-myomata. View from the front and above.

DESCRIPTION OF PLATE VIII.

Illustrating Dr. Chas. J. Cullingworth's case of Early Ectopic Gestation (? tubo-uterine) complicated by Fibro-myoma of the Uterus.

View from below and behind.

A. Sac, with head and limbs of fœtus protruding from one end, found lying in Douglas's pouch. See Plate IX, fig. 2.

B. Small interstitial fibro-myoma in posterior wall of uterus. See Plate VII, D, and Plate IX, fig. 1, C.

C. Gestation sac filled with blood-clot. See Plate VII, B and C, and Plate IX, fig. 1, E.

D. Band of tissue, with central canal, connecting A with C. See Plate IX, fig. 2, D.

E. Left Fallopian tube.

F. Right Fallopian tube.

G. Left ovary.

H. Right ovary.

J. Bristle passed into uterine canal at junction of corpus and cervix.

K. Cut surface of uterus, showing plane of division at level of isthmus. Uterine body enlarged by fibro-myoma in anterior wall.

(Drawn by R. E. Holding.)

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Ectopic gestation with fibro-myomata. View from behind and below.

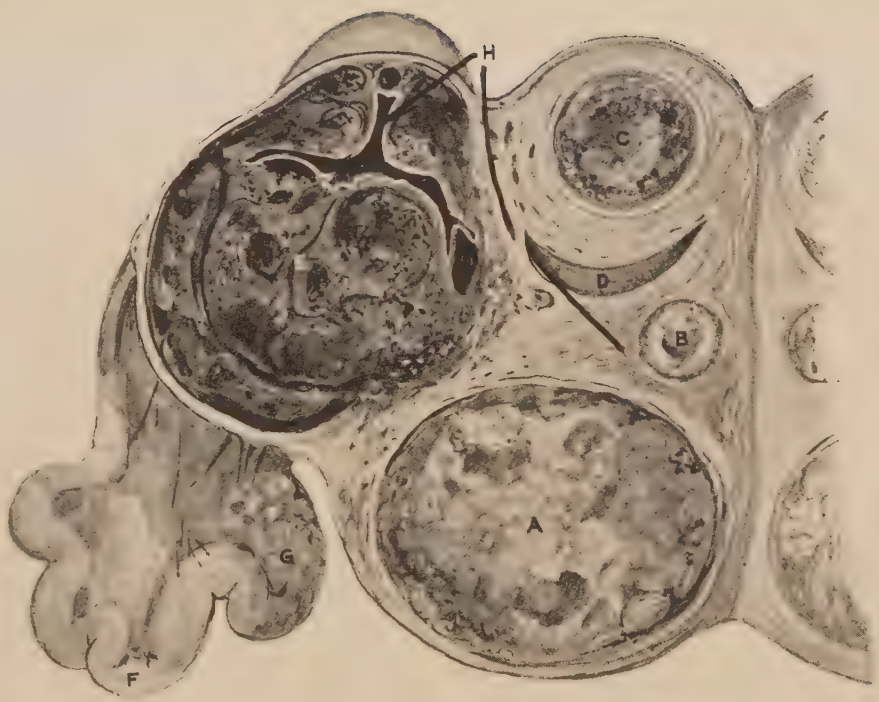


Fig. 1.

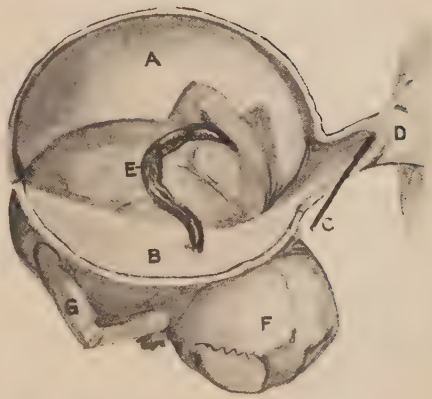


Fig. 2.

Engraved by Bale & Danielsson, Ltd.

Ectopic gestation with fibro-myomata.

Fig. 1.—Section after being hardened.
Fig. 2.—Fœtal sac opened.

DESCRIPTION OF PLATE IX.

Illustrating Dr. Chas. J. Cullingworth's case of Early Ectopic Gestation (? tubo-uterine) complicated by Fibro-myoma of the Uterus.

FIG. 1.—View on section, after hardening.

A. Fibro-myoma in anterior wall.

B and C. Smaller interstitial fibro-myomata.

D. Cavity of right cornu of uterus laid open, with bristle in uterine aperture of right Fallopian tube.

E. Blood-clot, filling gestation sac.

F. Right Fallopian tube.

G. Right ovary.

H. Compressed cavity lined by amnion.

FIG. 2.—Sac (containing fœtus) laid open, wall turned down.

A. Interior of sac.

B. Wall turned down to display interior.

C. Bristle passed through connecting band, showing direct communication with original gestation sac. See Fig. 1, H.

D. Connecting band.

E. Umbilical cord passing across back of fœtus and attached near B to inner wall of sac.

F. Head of fœtus.

G. Limbs of fœtus protruding from sac.

(Drawn by R. E. Holding.)

length, connecting it with the membranous sac already described as containing the fœtus.

January 10th, 1898.—The specimen having been hardened in spirit was submitted to-day to further examination by Mr. Shattock. A section, made through the centre (see Plate IX, fig. 1), showed the soft swelling to consist of blood-clot, containing in the midst of the clot the remains of a cavity lined by a distinct membrane, and now compressed and empty, with its surfaces in close apposition. The right Fallopian tube was cut across at a distance of an inch from the swelling. A bristle passed along the tube in the direction of the uterus showed that immediately outside the gestation sac the tube was occluded. The right cornu of the uterine cavity could be traced as far as, but not into, the gestation sac. Uterine tissue is continued over the gestation sac to the extent of about one fourth of its entire circumference, viz. for a distance of an inch and a half on its lower, and half an inch on its upper surface. A probe passed into the cavity in the midst of the clot in the direction of the pedicle enters and passes completely through the pedicle into the membranous sac containing the fœtus. On laying open this sac (see Plate IX, fig. 2), it is found to be lined by a membrane directly continuous, through the pedicle, with the membrane lining the compressed cavity already described in the midst of the gestation sac, and to contain a quantity of blood-clot and the whole of the fœtus except the head and lower limbs, which project through a rent at one end. Part of the fœtus projects into the interior of the sac, and the rest is adherent to the sac wall. The umbilical cord lies entirely within the fœtal sac, no part of it extending into the pedicle. The cord can be traced up to a point where it becomes adherent to and lost in the sac wall, without any indication of placenta. It passes across the back of the fœtus and under its left axilla. The fœtus is acutely bent upon itself, its back presenting a rounded surface, convex towards the interior of the fœtal sac.

The section passes through the cavity of the uterus

and through three fibroid tumours in its walls. Two of these have been already described. The third, about the size of a marble, is situated in the left part of the anterior wall, and is interstitial.

The conclusion arrived at is that the gestation was originally tubo-uterine, in the sense of being partly interstitial and partly extra-uterine and wholly tubal. The presence of a distinct amniotic sac in the midst of the clot seems to show that the fœtus had been extruded either into a diverticulum of the tube or into the abdominal cavity. The apparent continuity of the pedicle externally with the wall of the gestation sac on the one hand and the wall of the fœtal sac on the other, and the fact that a probe can be passed along the pedicle from the interior of one sac into the interior of the other, support the former of these hypotheses. The size of the fœtus (three and a half inches from the crown of the head to the lower end of the spine, and therefore four and a half to five inches in total length), compared with the size of the aperture, suggests that the fœtus continued for a time to live and grow after its extrusion, and that the cord, if, as seems certain, it has been ruptured, underwent rupture not at the moment of extrusion, but later. The fœtus evidently carried with it, when extruded, a process of amnion. The pedicle leaves the gestation sac about the centre of its posterior surface, just beyond the point to which a covering of uterine tissue can be traced.

Mr. Alban Doran observed that in pure tubal pregnancy the fœtus and placenta have been found to lie in separate dilatations. This was the case in Chaput's patient, as recorded in the 'Bulletin de la Société Anatomique de Paris' for July. Between the dilatations was an inch of open tubal canal. Hence in the President's case the fœtus possibly lay in a true diverticulum of the tube, the little canal or pedicle being still tubal, though not the homologue of the channel of communication in Chaput's case. On the other hand, it seemed possible that in the President's case rupture of a tubo-uterine sac had occurred early, but the membranes had partly protruded, so as to stop up the leak, and the fœtus had slipped into the protruding part, the placenta remaining behind.

Dr. Amand Routh thought that Mr. Doran's explanation was probably correct, that the gestation had been primarily an interstitial one which had ruptured. He thought that the fœtus had been expelled through the rent, still attached to the placental site by the umbilical cord, which had permitted the fœtus to continue growing. Both the fœtus in its amnion and the cord had gradually become enveloped in a pseudo-membrane or cyst wall. The manipulations had snapped the umbilical cord, and it had become drawn out of its covering, which had formed the pedicle, leaving it patent, as found subsequently.

Dr. Arthur Giles observed that the mode of attachment of the umbilical cord to the inner wall of the sac was a very curious one, and from an examination of the specimen the explanation that seemed to him most probable was that the cord, instead of passing direct to the placenta, had a velamentous insertion, and that the portion of the sac nearer the uterus had become encroached upon by the hæmorrhage that had taken place between the amnion and the chorion until it had become almost obliterated, and had left the narrow channel contained in the pedicle. The case had many points of interest, clinical as well as pathological. One of the most instructive of the clinical features was the simulation of retroversion of the gravid uterus. This was not a usual thing in ectopic pregnancy, but he had met with an instance in a case reported to the Society in 1897.* It was an important thing to remember that the tumour in a case of ectopic pregnancy might occupy the pouch of Douglas instead of the classical position to one or other side of the uterus.

Dr. Cullingworth, in reply, said that this was the first case that had occurred in his practice in which a tubal pregnancy had involved the intra-mural portion of the tube. Mr. J. W. Taylor, of Birmingham, an authority of much experience, had expressed the opinion, after examining the preparation, that the pregnancy had originally taken place in the isthmus of the tube, and had invaded the intra-mural portion later in the course of its development. Upon this point he did not feel competent to offer an opinion. It was certain that the gestation sac was now surrounded over a considerable portion of its circumference by a fairly thick layer of uterine tissue. He reminded the Society of two other instances he had brought forward, in which part or the whole of the ovum in a tubal pregnancy had escaped into a diverticulum of the tube. Both specimens were in the museum of St. Thomas's Hospital. He believed that this is what happened in the case before them, the diverticulum having gradually acquired a pedicle, and retaining through the pedicle (which remained pervious) a direct communication with the main channel of the

* "Two Unusual Cases of Ectopic Gestation," by A. E. Giles and E. J. Maclean, 'Obst. Trans.,' 1897.

tube. The extrusion of the head and lower limbs of the fœtus through the wall of the diverticulum, he thought, was probably the result of manipulation before operation, when attempts were made to reduce what was then believed to be a retroversion of the gravid uterus. He thanked the Fellows for the interest they had shown in the case, and apologised for the minuteness of detail in its narration, which, however, in a case of that nature was necessary.

NOVEMBER 2ND, 1898.

C. J. CULLINGWORTH, M.D., President, in the Chair.

Present—39 Fellows and 3 visitors.

The following gentlemen were elected Fellows of the Society:—Arthur Scott Turner, L.R.C.P.Edin.; Haydn Brown, L.R.C.P.Lond.; Charles F. Ward, F.R.C.S.I. (Pietermaritzburg).

FIBROMA OF BROAD LIGAMENT WEIGHING FORTY-FOUR POUNDS EIGHT OUNCES, SUCCESSFULLY REMOVED FROM A WOMAN AGED TWENTY-EIGHT.

Shown by ALBAN DORAN, F.R.C.S.

THIS tumour, about which I propose to say more in detail, was removed on September 27th from a young married woman, whose last child was born six years ago; then a year later, when she was twenty-three, a swelling appeared in the left iliac fossa. She was long under the observation of Mr. T. W. Mead of Portsmouth, and of Dr. Ward Cousins of Southsea, who pushed the tumour out of the pelvis two years ago, as it was impacted. Latterly it grew rapidly. At the operation I took care to secure all the vessels on the capsule thoroughly, both on the

distal and proximal side, by ligature, dividing them with the adjacent part of the capsule and then pulling the proximal ligatures very firmly. When all the vessels were secured, the incisions in the capsule were prolonged till they were united all round, then enucleation was effected without the loss of a drop of blood. The cervix, stretched over the front of the tumour, was secured by the serre-nœud early in the operation. The cut edge of the capsule was brought down to the lower end of the abdominal incision by a purse-string suture. As the serre-nœud held the stump of the cervix well and was really far from the peritoneum, lying inside the capsule, I left it on. The capsule was packed with iodoform gauze, removed in forty-eight hours. To-day, November 2nd, just five weeks after the operation, the patient is in good health. The cavity of the capsule has shrunk to a granulating pit about an inch deep.

(The patient was in good health on January 18th, 1899; the abdominal wound had healed well.)

SARCOMA OF BOTH OVARIES.

Shown by Alban Doran, F.R.C.S.

The chief feature of interest about these tumours was their close resemblance, before operation, to uterine fibroids. I exhibit them now because they are fresh, having been removed yesterday, November 1st. The patient was aged 45, married eighteen years, five times pregnant. The last pregnancy ended in an abortion at the third month, in June, 1898. A swelling was then felt above the pubes; it took to increasing very rapidly. The periods remained regular and the show was never free. Two lobulated tumours filled the abdomen from the pubes to two inches above the umbilicus. They felt

very elastic, and anteriorly was a cystic projection simulating a dilated bladder, but the catheter only passed four inches and not near the cyst. The cervix was high, and the left tumour came down behind it in Douglas's pouch. The uterine cavity measured three and a half inches. The two tumours and the uterus moved together, but were not very moveable. Taken as a whole, I thought that the tumours were uterine. At the operation some deep red ascitic fluid escaped, and then on drawing out the right tumour I found that it was attached by a short but anatomically normal ovarian pedicle to the right side of the uterus. There were intimate and very vascular adhesions to the small intestines. The left tumour was more solid than the right, its pedicle was anatomically normal, but with extremely dilated vessels. Neither pedicle seemed infected with the new growth, but both were short. The two tumours weigh 5 lbs. 15 oz., and look like myxo-sarcomatous growths. On section they appeared reddish brown and gelatinous like a kidney, or still more like a polished red pebble.

Six years ago I wrote some notes on "Two Cases of Small Ovarian Tumours simulating Uterine Fibroid" ('Brit. Med. Journ.,' 1892, vol. i, p. 1180). Since then I have seen a large number of these doubtful solid and semi-solid tumours. As a rule diagnosis is not attended with difficulty, but lobulated soft solid ovarian growths with short pedicles cannot always be distinguished from multiple uterine fibroids without the aid of an exploratory incision. Clinical and physical symptoms are very misleading. I dwell on the question of incision because I consider it the right step. Waiting may result in a correct diagnosis, but should the tumour prove to be an ovarian sarcoma the patient will be clearly exposed to increased risk by such delay.

(The patient recovered, and was in good health January 2nd, 1899.)

TUBAL GESTATION; INCOMPLETE TUBAL ABORTION; HÆMORRHAGE; OPERATION; RECOVERY.

Shown by A. C. Butler-Smythe, F.R.C.S.E.,

SURGEON TO THE GROSVENOR HOSPITAL FOR WOMEN, WESTMINSTER; SURGEON TO OUT-PATIENTS, SAMARITAN FREE HOSPITAL FOR WOMEN, LONDON.

This specimen was taken from a patient who was sent to me by Dr. Wright of Romford, Essex. Her history was as follows:—Age 29, married eight and a half years. One child born at the seventh month. One miscarriage two years and two months ago at the third month. She had been quite regular up to the middle of July, when, nine days after her usual period had ceased, she came on again with a rush of blood, which lasted three days and then almost stopped, but for a month there continued a slight show. About this time her breasts became swollen and painful, and she had attacks of pain in her abdomen, accompanied by sickness and fainting which led her to believe that she was pregnant, though she had never missed a period or even gone over her usual time. The following month, however, her period came on at the usual date and in the usual manner, the flow lasting four or five days. It then stopped for three days, after which there was a slight show for a few days, and this was followed by severe pain in her abdomen, retching and faintness, and by a great loss of blood from the vagina which continued for three days.

She was kept in bed and as quiet as possible for some weeks, but a few days previous to our consultation another attack of pain came on, followed by a rush of blood together with fainting and sickness, and she then passed from the vagina what she described as "a piece of skin or flesh."

On examining her abdomen externally, some dulness

and tenderness was noticeable in the left iliac region, where a distinct swelling could be made out. Bimanually the cervix uteri was felt to be cushiony, and the os patulous. The uterus was enlarged and pushed to the right side and somewhat downwards by a swelling on the left side of the abdomen which reached halfway to the umbilicus, and seemed to curl over the fundus uteri. This I took to be the left Fallopian tube much enlarged and adherent to the top of the uterus. No swelling could be made out *per vaginam* in Douglas's pouch or at either side, and there was a marked absence of tenderness around the cervix uteri.

I diagnosed tubal gestation on the left side, and at the request of the patient I explained the condition discovered to herself and to her husband, at the same time urging her to stop in town and go straight to a nursing home. They decided, however, to go home first, promising to return with the least possible delay. A room was therefore at once engaged, and I wrote to Dr. Wright, giving my opinion and advising immediate operative interference.

On the morning of the 29th September I had a wire saying "the patient would be at the home by 1 o'clock." At 1.15 another wire arrived, asking me to "come down at once ready to operate, as the patient had collapsed on her way to the station." On my arrival I ascertained that the patient had started to drive five miles in a dog-cart from her home to the railway station. She was then perfectly well and cheerful, but when about half a mile from the town she suddenly felt faint and sick, and before they could reach the doctor's house she completely collapsed. Dr. Wright and his partner being out, the nearest medical man, Dr. Fraser, was sent for, and he had the patient lifted out of the cart into the house. She was then absolutely collapsed, and was thought to be dying. Under appropriate treatment, however, she rallied somewhat, and on Dr. Wright's arrival she was removed on an ambulance to the Cottage Hospital.

When I saw her there in consultation with Drs. Wright,

Fraser, and S. Wright, she was blanched, cold, and pulseless at both wrists. Her pupils were widely dilated, her respiration sighing, and she was sweating profusely and very restless. Her temperature was 97°, and she seemed to me to be passing from one fainting condition into another, and was evidently then bleeding internally. The case seemed hopeless, but I decided to open her abdomen, and having explained the patient's condition to her husband he gave his consent to the operation.

When placed on the table it was doubtful if she could take any anæsthetic, but Dr. Fraser decided to make the attempt with the A.C.E. mixture, and very well it acted. As the bleeding had evidently been extensive I decided to have a saline solution passed into the rectum by means of a funnel and tube, and, if possible, continued throughout the operation. Dr. Wright, jun., attended to this, and Dr. Wright kindly assisted me at the operation. On opening the peritoneum dark blood and clots gushed out with considerable force. The omentum was adherent in front to the tumour, the uterus, and to the top of the bladder, and the last-named organ was drawn up halfway to the umbilicus, and narrowly escaped being injured when the peritoneum was incised. The adhesions were separated and the bladder pushed down, and the opening was enlarged. It was then seen that the abdomen was full of large clots and recent blood. The cavity was flushed out with warm water and the clots removed, when bright blood was noticed coming from the left side of the uterus. The tube on that side was at once clamped close to the left cornu, and the tumour, which was adherent to the intestine and curled round the fundus of the uterus, was separated, brought to the surface, ligatured, and removed. The abdominal cavity was again thoroughly flushed out and a drainage-tube inserted and fixed in the lower part of the wound, which was then closed, leaving the abdomen full of clear warm water. The patient was next removed to bed and surrounded by hot water bottles, and five minims of Liq.

Strychninæ were injected subcutaneously. An hour later a feeding enema was given, and the patient's condition was much improved. The after history was unaccompanied by any drawback. The drainage-tube was removed within twenty-four hours, and the wound healed almost by first intention. On the evening of the operation the temperature rose to 100·8°, this being the highest point recorded during her convalescence. The pulse for the first three days kept about 120, and then gradually slowed down to normal. The silkworm-gut sutures were removed on the tenth day, by which time the patient was convalescent.

Remarks.—No embryo was discovered among the clots removed from the abdomen, but the search was anything but exhaustive. Chorionic villi were, however, found in abundance in a section cut for me by my colleague, Mr. Corrie Keep. I think the recovery of this patient was due in a great measure to the use of the saline solution administered by the rectum throughout the operation, and also to the fact that the abdominal cavity was left full of warm water when the abdomen was closed. Had I to operate again on a case where the hæmorrhage had been extensive I should use the saline solution in the peritoneal cavity, knowing that the healthy peritoneum would absorb it rapidly. In this case the result was remarkable, for though the patient was pulseless at both wrists when placed on the table the pulse gradually returned during the operation, and was of fair volume at its close. My best thanks are due to the staff of the Romford Cottage Hospital for the valuable assistance rendered at the operation, and for their courtesy in allowing me to visit the patient subsequently in consultation.

ŒDEMATOUS SUBPERITONEAL FIBRO-MYOMATA OF UTERUS IN RIGHT BROAD LIGAMENT REMOVED BY ABDOMINAL HYSTERECTOMY.

Shown by C. J. Cullingworth, M.D.

The specimen consisted of a uterus with three subperitoneal fibro-myomata, removed October 20th, 1898, by abdominal hysterectomy from a single woman aged 36. One of the tumours, measuring $2\frac{1}{2} \times 2 \times 2$ inches, formed a sessile projection from the posterior surface of the uterus, and was irregularly nodular, firm, and hard. The other two were of larger size, and had burrowed between the layers of the right broad ligament and beneath the peritoneal covering of the pelvic floor. They were remarkably soft from extensive œdema, and retained their connection with the uterus by bands of muscular tissue, so soft and so inconsiderable in size as to be only detected on careful examination. The larger one was somewhat pyriform in shape, and measured $7\frac{1}{2} \times 5 \times 3\frac{1}{2}$ inches. The smaller was discoid in shape, and measured $3\frac{1}{4} \times 3\frac{1}{4} \times 1\frac{1}{2}$ inches. Their pedicles were about equal in size to the little finger of an adult.

The right Fallopian tube and right ovary were removed. They were both healthy, but were too extensively disturbed in their relations for it to be possible to save them. The left appendages were left intact. The uterus was removed at the level of the *os internum;* its walls were of normal thickness, and its cavity of the average size and length.

The patient had been subject for several months to attacks of pain and nausea. She first noticed an abdominal swelling nine or ten months ago. The swelling, on her admission into St. Thomas's Hospital on October 12th, extended from the pubes upwards to

within one and a half inches of the umbilicus. The cervix was drawn up to the left; there was no projection of cervix into the vagina, the os being on a level with the horizontal ramus of the os pubis. Both vagina and rectum were much encroached upon by the lower part of the abdominal swelling. The bladder was displaced backwards and to the left.

The operation involved an extensive enucleation, and left a large gap in the connective tissue on the right side of the pelvis. The peritoneal flaps of broad ligament, &c., were allowed simply to fall together, their divided edges being united by a few fine silk sutures. The ovarian arteries and the right uterine artery were ligatured in the usual way as a preliminary step of the operation. The left uterine artery lay concealed by the growths. It was easily secured at the moment of its division during the operation.

The patient's recovery had been quite uneventful.

The interest of the case lay in the successful issue of what appeared to be a somewhat formidable undertaking, and in the fact of two of the three tumours having undergone extensive œdematous infiltration, whilst the third, with a broader base of connection with the uterus, had escaped.

CASE OF SLOUGHING FIBRO-MYOMA OF UTERUS OCCURRING IN A PATIENT TWENTY YEARS AFTER THE MENOPAUSE.

Shown by Dr. Walter Tate.

The specimen shown was removed from a single woman aged 67. Menstruation had always been rather profuse, lasting seven or eight days; it ceased at the age of forty-seven. She remained free from any discharge till three months before her admission, when she began to have a

continuous blood-stained discharge. At the end of the first month the discharge became much more profuse, and was accompanied by pain and considerable loss of flesh. These symptoms continued up to the time of admission to St. Thomas's Hospital. On abdominal examination a firm, smooth, rounded tumour was found occupying the hypogastric region, reaching to within two and a half inches of the umbilicus. *Per vaginam* the cervix was healthy, and the tumour was found to fill the pelvis, and depressed the anterior vaginal wall. On the 12th October, 1898, the cervical canal was dilated, and on digital exploration the anterior wall of the uterus was found to be the seat of an irregular sessile growth projecting into the cavity of the uterus. The uterine wall in the immediate neighbourhood of the tumour felt nodular. The growth bled very freely on examination, the discharge being slightly offensive. From the age of the patient, and the irregular surface of the growth, the tumour was thought to be carcinomatous, and it was decided to remove the whole uterus. As, however, the vagina was small, it was thought best to commence the operation of hysterectomy by the vaginal route, and complete it by an abdominal incision.

On the 19th October hysterectomy was performed. The usual incision through vaginal mucous membrane was made, and the bladder separated from the cervix. The cellular tissue posteriorly was opened up to the reflection of peritoneum, and two ligatures were then passed on each side securing the lower part of the broad ligament. The abdomen was then opened, and the upper part of the broad ligament was ligatured on each side, the ligatures being cut short. After opening the peritoneal reflection in front of and behind the uterus, the middle portion of the broad ligament on the left side was firmly secured with a silk ligature, and the uterus was then free. The abdominal wound was closed and a plug of gauze inserted into the vagina.

Patient suffered very little shock, but at the end of a

week began to suffer from bronchitis, which was followed by hypostatic congestion, and made the prognosis unfavourable.

The tumour after removal was found to be a sessile sloughing fibroid, measuring $3\frac{1}{2} \times 3$ inches. Its attachment extended over the anterior wall of the uterus from the fundus to the internal os.

Note.—The patient died on November 3rd, 1898. At the autopsy there was found extensive pelvic peritonitis, with one or two loculi of pus between the adjacent coils of intestine. In the upper part of the abdomen the peritoneum was quite healthy. The visceral pleura of the left lung was completely ensheathed by a coat of yellow lymph which could be peeled off. Both lungs were œdematous. The kidneys were markedly granular.

Mr. Bland Sutton remarked that the specimen shown by Dr. Tate was of some interest, inasmuch as it showed that although the patient waited till the menopause, with the hope of losing the myoma, the tumour placed her life in the gravest peril. Mr. Sutton had recently seen a similar case. A maiden lady, fifty-five years of age, had a large myoma. It was positively known to have existed twenty-six years, and there was reason to believe that it was present in the womb thirty years. The menopause occurred at the fifty-third year, and the tumour diminished somewhat. Two years later it became painful, and a foul vaginal discharge, accompanied by rigors and elevated temperature (sometimes reaching 102°), disturbed the patient. It was clear that the myoma was sloughing, or perhaps carcinoma had occurred in the endometrium. On October 18th, 1898, the uterus was removed by supra-vaginal hysterectomy, and the tumour, which weighed 8 lbs., was a filthy, stinking, sloughing mass covered by a thin capsule. Recovery was rapid and eventless. Evidence was accumulating to prove that the patience of patients was not always rewarded by escape from the inconveniences and dangers of uterine myomata when they survived the "change of life." Even if the tumour "dried up," it could and often did jeopardise life.

Dr. Herman, while recognising the difficulty of diagnosis, and that the operation performed was the proper one for the disease presumably present, yet thought that had the correct diagnosis been made, the disintegrating fibroid could have been easily and

more safely removed by dilating the cervix, cutting up the fibroid, and extracting the pieces through the vagina, thus avoiding an abdominal scar and the risk of peritonitis. Mr. Sutton's case was an interesting one, but he (Dr. Herman) did not see that it ought to alter the opinion of the profession as to the prognosis with uterine fibroids. Fibroids were exceedingly common in elderly women, and cases such as Mr. Sutton had described, many of which had been observed and recorded before Mr. Sutton's, were exceedingly rare.

Mr. Alban Doran observed that a sloughing fibroid in the uterine cavity was occasionally discovered during hysterectomy, much to the alarm of the operator. In the spring of 1897 he removed the uterus of a woman over forty for fibroid disease, with the usual symptoms; though blood had escaped freely, there was no history of fœtor. He amputated the fibroid uterus, and found, whilst cutting through the anterior flap, that a sloughing submucous myoma occupied the uterine cavity. Sponges had already been packed around the lower part of the uterus, and the sloughing part was at once soaked with a 1 in 1000 sublimate solution directly it was discovered. The posterior flap was made with a fresh scalpel; then the uterus, with its interstitial and submucous growths, came away. The interior of the flaps was well washed with sublimate, and their serous and muscular coats united with fine silk; fortunately the os externum was wide, so that there was free drainage. No ill results followed, but the risk of any variety of hysterectomy is greatly increased by the presence of a submucous myoma in an unhealthy state.

In reply, Dr. Tate did not consider that the operation would have caused the patient shock if done entirely by the abdominal incision. The vaginal part of the operation causes no shock, and consequently the shorter exposure of the abdominal incision diminishes shock. In reply to Dr. Herman, Dr. Tate considered that the removal of the whole uterus exposed the patient to far less risk than removal of the tumour *morcellement*.

UTERINE APPENDAGES SHOWING A HÆMATOSALPINX.

Shown by Dr. Amand Routh.

These bilateral appendages were removed by Mr. Stanley Boyd for recurrent mammary cancer. The patient was a married woman of 33, whose right

breast was removed by Mr. Boyd in March, 1896. Recurrence took place above the clavicle in August, 1897; and in November, 1897, Mr. Boyd removed the ovaries and tubes on both sides, and also, but incompletely, the recurrence above the right clavicle.

At the time of the abdominal section it was noticed that the uterus was enlarged, and this condition, with the dilated tube and the corpus luteum, was taken to mean that an early tubal gestation was present, especially as the corpus luteum was on the same side as the tubal swelling. On further examination of the tube by Dr. William Hunter the tubal swelling was proved to be coagulated blood, with no trace of any chorionic villi.

The patient returned again in February, 1898, and was then found to be five months pregnant, so that at the date of the removal of the appendages she must have been two and a half months pregnant. Her labour occurred in June, 1898, and was uneventful. Her child was small but healthy, and her convalescence was normal. It was noted that the liquor amnii was scanty.

On July 21st involution was complete, the cervix being atrophic, and there was no obvious increase of the glands which were noticed eight months previously, and the patient was gaining weight. It seemed probable that the oöphorectomy was holding the cancer in check.

ON A CASE OF TUBO-ABDOMINAL PREGNANCY IN WHICH A LIVING FŒTUS WAS EXTRACTED BY CŒLIOTOMY AFTER TERM, AND THE MOTHER'S LIFE PRESERVED.

By J. Bland Sutton.

(Received September 23rd, 1898.)

(*Abstract.*)

The paper consists of the record of a case in which a woman, twenty-four years of age, conceived in her left Fallopian tube, and the pregnancy went to term. The fœtus escaped from the amnion, and at the operation was alive and disporting among the intestines, merely tethered by the umbilical cord.

The placenta was removed without difficulty, and a very trifling loss of blood. The mother recovered, but the child only survived extraction three hours.

In spite of the great increase in our knowledge of the morbid anatomy of tubal pregnancy, some new light was needed to clear away certain mists which enveloped that condition (fortunately rare) in which a living fœtus near, at, or even beyond term escapes from its amnion and moves freely among the intestines merely tethered by the umbilical cord.

A married woman, 24 years of age, who had one child twenty months previously, was admitted July 3rd, 1898, into Queen Charlotte's Lying-in Hospital, under the care of Dr. W. Chapman Grigg. The woman stated that the date of delivery according to her reckoning was overdue,

and the active movements of the fœtus caused great pain. The last menstruation happened in July, 1897, but there was a slight stain in August, 1897. Morning sickness began in October, 1897. She noticed nothing abnormal in regard to her pregnancy until May, 1898, when she began to suffer pain.

On her admission into the lying-in hospital, the resident officer, Dr. Dunn, from the ease with which the fœtus could be felt and its high position in the belly, came to the conclusion that the fœtus was not in the uterus. Dr. Grigg saw the case and examined the patient under chloroform. The uterus was empty, and the hypogastric region was occupied by a soft dome-shaped swelling, yielding a venous murmur on auscultation. There could be no reasonable doubt that the poor woman had an extra-uterine fœtus, and that the hypogastric swelling was the placenta.

Arrangements were made for the transference of the patient to the Chelsea Hospital for Women for the purpose of extracting the fœtus by cœliotomy.

The cœliotomy.—On July 4th, 1898, assisted by Drs. W. H. Fenton and Giles, I incised the abdominal wall freely in the linea alba, carrying the incision well above the navel. On dividing the peritoneum some meconium-stained omentum and thickened amnion protruded. Then a fœtal hand firmly grasping a coil of omentum presented at the incision; the fingers were gently extended and the omentum released, and a living fœtus extracted. The umbilical cord was clamped, cut, and the fœtus handed to a nurse. The intestines were covered with a large, soft, warm sponge, and the placenta examined with gentleness. I satisfied myself that it rested on the left mesometrium quite close to the uterus, and the vessels on its surface communicated with large arteries and veins in the folds of the great omentum; these folds were intimately adherent to the amnion at the situation where the membrane came into close relation with the fœtal surface of the placenta. The amnion was creased into

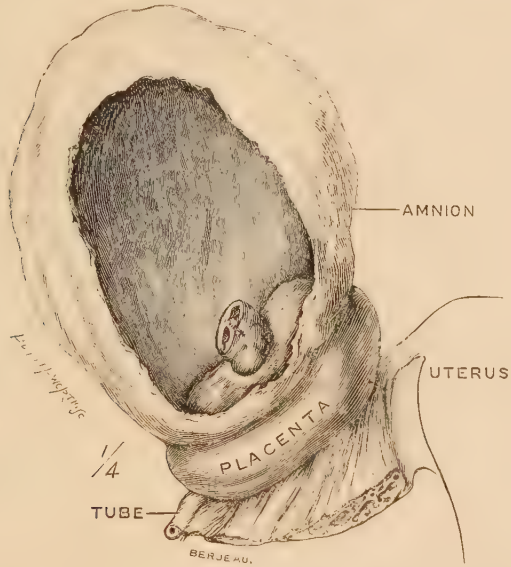
irregular folds, and obscured the pelvic structures. The left ovary and tube were drawn up, and the mesometrium transfixed at the outer edge of the placenta; a thick, broad, muscular, and very vascular band ran up the posterior aspect of the mesometrium into the base of the placenta. This was transfixed with silk, securely ligatured, and divided. This at once set the placenta free from its pelvic attachments with the most trifling loss of blood. The omentum was then transfixed with thin silk, and ligatured in successive bundles and without loss of blood. A very vascular fold of omentum adhered to the cœlomic end of the right tube, which necessitated the removal of the outer fifth of the tube with the corresponding section of the mesosalpinx. A critical survey of the pelvic organs was then made. The uterus, which reached well above the pubes, was soft and enlarged to the size of a fist. The outer two thirds of the left ovary and Fallopian occupied the natural position, but the isthmial segment was absent. The right appendages were entire except for the outer fifth of the Fallopian tube, which was removed as already mentioned. In consequence of the pedicle being thick and succulent I inserted a thin narrow rubber drain, to serve as a warning tube. The wound was secured in triple layers and the patient returned to bed.

In the course of the two following days much serous fluid escaped through the tube; on the third day the drain was removed, but some pus eventually made its way along the drain track. Convalescence was somewhat retarded by some pulmonary congestion present before the operation, and possibly intensified by the etherisation. However, she left for a convalescent home on July 26th.

The child.—We were not so fortunate with the child as with its mother. Immediately on its extraction, Dr. Porter Mathew successfully induced respiration, and it cried lustily. The child weighed 7½ lbs., was free from deformity and signs of compression. The umbilical cord was markedly œdematous. Two hours

later the child appeared slightly cyanotic, and shortly afterwards fell into a convulsion and died. The large vessels of the heart and thorax were carefully dissected, but the investigation revealed nothing to account for death.

The placenta.—This organ is ovoid, and, with the amnion, weighed 1½ lbs. In order to test the main



The placenta with its amnion in its relation to the Fallopian tube. The position of the thick vascular band in the mesometrium is well shown. The parts are represented from behind.

channels of communication with the maternal circulation, I injected water into the substance of the placenta, and found it escape through the large veins in the fleshy band derived from the left mesometrium.

The amnion is particularly thick, and the tissue of the umbilical cord œdematous.

A study of the placenta combined with the careful survey of the parts made during the operation satisfied me that the course of events may be described thus:

The oösperm suffered arrest in the isthmus of the left Fallopian tube; gradually the enlarging amnion eroded the expanded tube, and slowly made its way into the belly. Near term the amnion ruptured, and the fœtus escaped among the intestines. That it quitted its amniotic prison some time previous to the operation is demonstrated by the meconium-stained omentum.

It is clear that in this case the embryo never occupied the mesometrium, and it illustrates in every particular the observations made by Taylor * in his example of tubo-abdominal pregnancy.

To all interested in the question of tubal pregnancy it should be a matter of satisfaction that the difficulty surrounding the mode of origin of tubo-abdominal pregnancy has been so clearly solved and set at rest by Taylor. It completes the evidence that these "ventral" pregnancies like the pure mesometric forms are primarily tubal, and absolutely disposes of the myth that a fertilised ovum may engraft itself upon the peritoneum.

* 'Trans. Obstet. Soc.,' vol. xxxix, 178, and 'Lancet,' 1898, vol. i, 1515.

ON SOME CASES OF TUBAL PREGNANCY.

By J. Bland Sutton.

(Received September 23rd, 1898.)

(*Abstract.*)

The criticisms and deductions contained in this essay are based on a report of a specimen presented to the Society by Mr. Alban Doran, in May, 1898, purporting to be "Hæmorrhage from the Fallopian Tube without Evidence of Tubal Pregnancy."

The object of the essayist is to prove that the specimen was an excellent example of "complete tubal abortion." This contention is supported by a re-examination of the specimen, and illustrated by additional cases. Criticism is also extended to some other records recently published in the Society's 'Transactions.'

This essay is, in a sense, critical and deductive. I assume it to be clearly established that the presence of a tubal mole, or the demonstration of chorionic villi in the Fallopian tube, is proof that pregnancy has happened in the tube, as surely as laminated membranes and hooklets indicate an echinococcus colony.

Although it requires very little training to recognise these signs, it is remarkable how frequently they are overlooked. It is very important, in judging of the value of a record, to be satisfied that the recorder, to use a legal phrase, can be regarded as a competent witness. My astonishment was certainly great when I read the account of the proceedings of this Society for May, 1898,

that a very competent witness, my friend Alban Doran, had placed on record some misinterpretations which, issuing from such a recognised source, are likely to cause much doubting; therefore I intend to use his case and the observations made thereon by our distinguished president as a basis for my essay.

Mr. Doran showed a specimen illustrating, as he believed, "Hæmorrhage from the Fallopian Tube without Evidence of Tubal Gestation." The clinical facts are detailed at length, but fortunately there is an excellent drawing of the parts. On the strength of this figure alone I realised that the clot hanging from the margin of the cœlomic ostium of the tube was a mole, and as the specimen was stored in a public collection (the museum of the Royal College of Surgeons) I lost no time in examining it and satisfying myself that the supposed clot is a tubal mole, and the case is an undoubted example of *complete tubal abortion.*

In order to establish my view of this instructive case it will be necessary to consider four points: 1, the nature of the clot; 2, the condition of the tube; 3, the absence of free blood; and 4, the uterine decidua.

1. *Nature of the clot.*—The elliptical shape of the clot, its investing membrane (chorion), and the presence of an eccentric smooth-walled (amniotic) cavity, are more than sufficient to prove it a mole.

I am anxious to show that every smooth elliptical clot associated with tubal abortion is not a mole: for example, a woman came under my care in whom the signs of tubal pregnancy were well marked. At the operation (October, 1896) the pelvis was occupied by four firm dark clots. Each clot was reniform (Fig. 1), and the exterior was formed of laminated fibrin. The cœlomic ostium of the tube was widely patent, and the ampullary wall thick, succulent, and entire; the tube contained a "mole" which abounded in villi. The case was one of *incomplete tubal abortion,* but peculiar in this respect: as the blood slowly collected in the tube it clotted firmly, and was

discharged with pain through the ostium into the pelvis, the "delivery," so to speak, of each clot coinciding with three definite attacks of "pains" in the preceding July, August, and September.

FIG. 1.

A gravid mole-containing Fallopian tube. The dark outline represents the shape and size of the smallest clot; it also shows the shape of the ampulla when the tube is distended. From a woman 41 years of age, mother of four children.

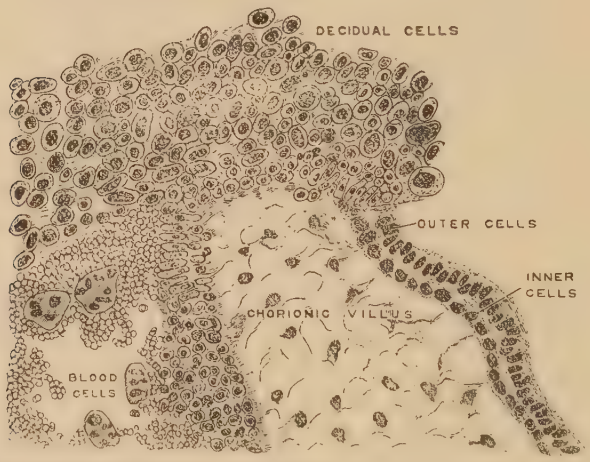
For full clinical history see 'Lancet,' 1897, vol. i, p. 432.

The tubal mole is such a characteristic and usually easily recognised body that I now rarely search for the villi, but in some cases where the mole is not found—for in some instances it is so small as to be easily lost in the effused blood—then in order to establish the nature of the case it is necessary to search for villi in the tube at the site of implantation of the oösperm. The smallest mole I have secured in a tube had a diameter of a centi-

metre, equal in size to an average green pea; hence it is easy to realise that moles so small may be overlooked. In such cases it is a simple and safe process to search for the villi near the rent in the tube if this structure be ruptured, as was so signally illustrated in the interesting record given by the president (Dr. Cullingworth) in the 'Transactions,' May, 1898, p. 186.

In connection with the chorionic villi of a tubal embryo it may be worth while to mention that whilst examining these structures in a tubal embryo of about the third month, I came across a large collection of decidual cells; the relation of the outer protoplasmic layer of the villi was such as to suggest that this so-called outer layer of cells furnished the decidual cells (Fig. 2).

FIG. 2.



A cluster of decidual cells, presumably derived from a chorionic villus. From a tubal embryo of about the third month.

2. *The condition of the tube.*—Mr. Doran points out that there was no rupture of the tube, but the ostium was patent, and continuing the narrative he writes:—"*The fimbriæ of the tube are normal, the canal shows no sign of dilatation or inflammation.*" This is not strange. Two

years ago * I recorded a case of complete tubal abortion in which at the time of operation there was reason to believe that the mole had within a few hours been extruded from the tube. The right Fallopian tube was dilated to the thickness of the forefinger; its walls were intact and its cœlomic ostium widely dilated and admitted the tip of the forefinger; the parts were placed in water, and as *rigor mortis* supervened the tube contracted to its normal size.

In relation to this fact, I pointed out that if anyone practically unacquainted with the remarkable properties of unstriped muscle were shown a fœtus at term in the amnion, and the uterus in which it developed, an hour after delivery, he would have his credulity sorely tried to be persuaded that the amnion and contents had been housed in the centre of that organ. I venture to make this observation because some thoughtful men, thoroughly familiar with the behaviour of the uterus, fail to comprehend that a similar state of things happens with the Fallopian tubes. Dr. Cullingworth † fully appreciates this, for he has reported a case in which a gravid tube resumed its normal calibre a few hours after bursting.

In Mr. Doran's specimen I found the cœlomic ostium dilated, although he states in his report (p. 182) that "the ostium is not dilated." This patency of the mouth of the Fallopian tube by itself is of little value, but it assumes significance in conjunction with other signs.

It is necessary to emphasise the fact that a gravid tube will, after discharging a mole, resume a normal condition, because in the 'Transactions' of the Society ‡ so recently as March, 1896, there is a report from a committee empanelled to offer an opinion on a specimen exhibited by Dr. Galabin. Because the tubes were normal the committee cautiously ventures to keep alive the myth of ovarian pregnancy, and it is deeply to be deplored that

* 'Brit. Med. Journ.,' 1896, vol. ii, 1308.

† 'Trans. Obstet. Soc.,' vol. xl, p. 186.

‡ Ibid., vol. xxxviii, p. 88.

the report winds up with the opinion the case was "probably an example of primary abdominal (intra-

Fig. 3.

Fallopian tube, ovary (containing a corpus luteum), and mole; from a case of complete tubal abortion. The patient was thirty-five years of age, mother of ten children, the youngest being three months old.

peritoneal) gestation." These views, of course, are untenable, and the whole report is rendered nugatory in my opinion, because the committee did not appreciate the fact that *a gravid Fallopian tube may discharge a mole into the pelvic cavity through its cœlomic ostium and return to its natural size and shape.* This is not only a matter of scientific value, but it has practical importance; for it is conceivable that conditions may arise in which, in the performance of cœliotomy for tubal abortion it would be to the patient's interests to remove the clots and

mole, and not interfere with the ovary or tube. Of course, the danger of such a course would be to render the patient liable to recurrence of pregnancy in the same tube.

Mr. Doran reports that in his specimen "the tube appeared healthy as it lay in the pelvis, and was proved healthy when examined after removal." This is no argument against the occurrence of tubal pregnancy, for I have satisfied myself that *a healthy Fallopian tube is more liable to become gravid than one that has been inflamed.* Mr. Doran's statement, however, that the tube was healthy is merely inference, for the tube has not been examined microscopically.

3. *The absence of free blood in the belly.*—Mr. Doran comments on the circumstance that there was no effused blood. It should be remembered that the illness was of some standing (about twelve weeks), which would easily allow ample time for the absorption of even a great quantity of blood. Large blood effusions into the belly are easily and rapidly absorbed if they remain sterile.

On one occasion I performed cœliotomy on a woman who had an unextruded mole in the tube (incomplete tubal abortion). She had been resting in bed many days to allow the acute symptoms to subside, and this had been followed by absorption of the effused blood; but I was able to judge of the extent of the effusion, for the intestines and omentum, as high as the stomach, were covered with a thin layer of viscid blood, recalling the soft ooze left on the sloping banks of a pond which has overflowed its usual margin, and then slowly retreated to its normal limits.

The amount of blood which is sometimes discharged into the belly as a result of tubal abortion is truly astonishing. A woman twenty-seven years of age, who had been married one year, was suddenly seized with severe pain in the pelvis, followed by marked collapse and all the signs characteristic of severe internal hæmorrhage: the doctor in charge feared for some hours that she was

actually dying. The next day she rallied and was transferred to the Middlesex Hospital. Cœliotomy was performed, as I had no doubt that she was the victim of a gravid tube which had either ruptured or aborted. The belly contained a large quantity of dark blood, which not only filled the pelvis, but it obscured the intestines, reached to the diaphragm, and bathed the convex surface of the liver.

The left Fallopian tube was enlarged, and on drawing it into the wound a mole was found protruding from the ostium.

The complete extrusion of the mole is usually a fortunate circumstance, notwithstanding the fact that it may be and often is accompanied by profuse bleeding, because so long as it is retained it is liable to cause bleeding, or maintain a sustained "blood-drip," as Taylor terms it, from the unclosed cœlomic ostium, and some blood may even leak through the uterine orifice and simulate metrorrhagia.

These facts bear on Doran's case, because the absence of free blood at the operation is accounted for by the fact that the mole had been extruded from the tube some weeks previously.

This brings me face to face with another condition, which I do not think has been previously considered with any special attention. A tubal mole may become sequestered in the tube, or even hang from the mouth of the tube, and has ceased to cause bleeding, yet it necessitates operative interference. It so happened in the early part of 1898 that two patients came under my care in the Chelsea Hospital for Women; the clinical history of each indicated very clearly that tubal abortion had occurred three months previously. The acute symptoms had subsided, yet the patients were far from well, could not perform their household work, and were under the observation of the family physician. On physical examination a rounded lump could be made out in the neighbourhood of the right ovary in each patient. Cœliotomy was

performed in both: a deliquescent mole occupied the Fallopian tube in each patient.

After careful consideration I have come to the conclusion that the absorption of liquefying clot is liable to cause an elevation of temperature and disturbance of health. The most marked example of this kind which I have observed occurred in a woman admitted into the Chelsea Hospital for Women in desperate straits; she had a large, hard, tender swelling occupying the lower half of the belly and pelvis; the pulse beat 120 to the minute, and a temperature ranging at night to 104° and 105°. All this seemed to point to a large collection of pus. I performed cœliotomy, removed sixty ounces of old deliquescent blood, and a tubal mole as big as a turkey's egg which had escaped into the pelvis through a rupture in the right Fallopian tube. The clot, though viscous, was sweet. A careful consideration of the clinical history led me to believe that the blood had been effused four weeks previously. The evacuation of the clot and removal of the damaged tube were followed by immediate subsidence of the stormy signs and a rapid restoration to health.

The facts are of importance because it is clear that a mole even when sequestered in the tube is an undesirable occupant of the pelvis.

4. *The absence of a uterine decidua.*—Mr. Doran's failure to find any trace of a uterine decidua is not surprising. This structure when present is valuable and significant in conjunction with other signs, but of itself is valueless; few surgeons would exhibit the confidence of Dr. Griffith,* or the enterprise of Mr. Bruce Clarke, and perform cœliotomy on such a slender sign as the extrusion of a uterine decidua without any other physical sign of tubal pregnancy.

I have ventured to discuss these questions, because there are few pelvic lesions which admit of such clear diagnosis in the majority of cases as tubal pregnancy;

* 'Trans. Obstet. Soc.,' vol. xxxvi, p. 335.

the tubal mole or the chorionic villi furnishing absolute proof of the nature of the lesion.

I quite agree with Mr. Doran that "bleeding from the Fallopian tubes under exceptional conditions is possible," and I would add probable; but I am hopeful that I have rescued his interesting case from ranking in such a collection of hypothetical conditions, for it is in reality an excellent example of complete tubal abortion.

Mr. Alban Doran wished it to be remembered that his communication was designedly entitled "Hæmorrhage from the Fallopian tube *without Evidence* of Tubal Gestation," and not "*Independent* of Tubal Gestation." In his paper he further declares that "I am very suspicious of alleged cases of hæmorrhage from the tube into the peritoneum not due to ectopic gestation." At the end he remarks that "I have endeavoured to show that this case *appears* to be one of those rare exceptions. It may be *reasonably suspected* that some of the blood which issued from the uterus, as the result of some local condition other than gestation, was forced not into the vagina, but along the tube and out of the ostium."

Mr. Sutton concludes, "I am heartily glad that I have rescued his interesting case from ranking in such a collection of hypothetical conditions, for it is in reality an excellent example of complete tubal abortion." Just previously he admits that "I quite agree with Doran that bleeding from the Fallopian tubes under *exceptional conditions* is possible."

Mr. Doran would have been much interested to see a demonstration of chorionic villi found in the clot in his specimen. But Mr. Sutton and Mr. Shattock have failed to find any villi. Again, in an article published in the 'British Medical Journal,' vol. x, 1891, on a case of "Tubal Abortion with Double Hæmatosalpinx; Operation; Recovery," Mr. Doran noted that Walther "rightly warns us against taking almost structureless fibrinous deposits for chorionic villi." "If," he added, "we examine tubes full of blood in a hurry, and prepare sections carelessly, we are certain to discover imaginary villi." Mr. Sutton must agree with him in his caution. It follows the description of a section where Mr. Sutton himself, as well as others, detected chorionic villi. Mr. Sutton thinks, nevertheless, "that bands of fibrin be mistaken for chorionic villi is a suggestion too feeble to be entertained," adding that "Doran gives Walther of Giessen credit for this; but I regret to say that it has been made by Fellows of the Obstetrical Society." Mr. Doran did not think that Walther's labours recorded in his

thesis "Zur Casuistik der Hæmatosalpinx" should be disregarded. Walther's microscopical researches seem to have been conducted under the competent superintendence of Prof. Löhlein. The plates which adorn his thesis seem carefully prepared, and a true chorionic villus is compared with a villus-like structure (*Chorionzotten-ähnliche Bildung*) represented as embedded in a section of clot from a hæmatosalpinx. Walther gives good reasons for believing that the structure is but a band of fibrin. For further details Mr. Doran referred Mr. Sutton to Walther's thesis. Anyhow, no villi were detected in Mr. Doran's case, and the most convincing evidence of tubal gestation remains absent. Mr. Doran admitted that in Mr. Butler-Smythe's instructive case, read that evening, one microscopist found no chorionic villi, another found them in abundance. Mr. Sutton's statement that "the tubal mole is such a characteristic and usually easily recognised body that I now rarely search for the villi" was liable to mislead those less experienced than himself, and required the weight of Walther's observations as a balance. The true conclusion about the villi in Mr. Doran's case is that they may have been overlooked by both of them, but that left the question unsettled. As for the clot itself, the space inside it near to the ostium might represent an amniotic cavity, but hollow spaces are seen in clots far from the genital tract. The space is open towards the ostium, and looks as if fluid blood had been in its place, and had flown back or dripped into the peritoneum. Mr. Sutton admits that "every smooth elliptical clot associated with tubal abortion is *not* a mole." Quite so, and there is no reason why clots from the tube not associated with tubal gestation and abortion should not be smooth and elliptical. Mr. Doran agreed with Mr. Sutton that the involution of the Fallopian tube after tubal abortion may be remarkably rapid, and the clinical evidence which he gives is of high value. Mr. Doran also agreed with him in believing that ectopic gestation was always tubal at first, as far as has been satisfactorily proved. Mr. Doran showed the fallacies in reports of alleged primary ovarian and abdominal pregnancy in a note on a case of a fœtus found in the peritoneal cavity, published in the 'Transactions' five years since (vol. xxxv, p. 222). He is not convinced by arguments to the contrary brought forward by Mr. Taylor, of Birmingham, in his most interesting Ingleby Lectures delivered at Mason's College, Birmingham, last May. Mr. Doran did not say that primary abdominal gestation could not occur, but he was not convinced even though he was in the committee on Dr. Galabin's specimen, to which Mr. Sutton refers. Mr. Doran admitted probabilities, but, like Dr. Amand Routh, he agreed that "the sub-committee could not be definite in their conclusions." Mr. Sutton seems to have proved that "a gravid Fallopian tube may discharge a

mole into the pelvic cavity through its cœlomic ostium, and return to its natural size and shape." The absence of free blood in the peritoneal cavity is not essential in the discussion, as it is quite possible to conceive that a limited amount of blood issuing from the ostium under any condition may clot as it escapes, and appear as a more or less firm, well-circumscribed coagulum. In conclusion, Mr. Doran summed up the question by observing that he agreed in general with all Mr. Sutton's views, and agreed with him that in this particular case there might have been tubal abortion, but he believed, as before, that the hæmorrhage might have been independent of ectopic gestation. The case remained unproved, and must still rank "in such a collection of hypothetical considerations."

Dr. Amand Routh considered Mr. Bland Sutton's paper of very great value, for it had brought out very clearly the fact that after tubal rupture the Fallopian tube might recover itself and look normal in a few days, and after tubal abortion had been proved to have resumed its normal size and appearance even in a few hours. He referred to the report on Dr. Galabin's specimen of extra-uterine gestation ('Obstet. Soc. Trans.,' vol. xxxviii, p. 88), and he reminded the Fellows that the diagnosis of tubal rupture or abortion was not then (1896) accepted in that case for two reasons: first, because both tubes were apparently normal; and secondly, because the examination of the pelvic organs proved that, if either of these accidents had occurred, the ovum must have become bodily transplanted to a spot at a distance from the tube, and had there continued to develop. Even now, two years after that report, he was not aware of any evidence which was forthcoming to show that such an event was possible.

Dr. McCann: As the case which is the subject of discussion this evening first came under my care at the Samaritan Hospital, I may be permitted to make a few remarks. This patient had suffered for some weeks from constant and copious discharge of bright red blood from the vagina. For this and the accompanying anæmia she sought treatment at the Samaritan Hospital. On examination I diagnosed tubal abortion, and she was accordingly admitted for operation. From my own experience I regarded this free hæmorrhage as quite exceptional in such cases. A fortnight before seeing this patient I was consulted by a lady who gave the following history. She had been married three years and was sterile. Since her marriage she had suffered severely from dysmenorrhœa. Shortly after her marriage she had an attack of what was said to be "inflammation of the bowels." Her husband had a chronic gleet when he married, and this attack was probably gonorrhœal salpingitis. Three weeks before I saw her she had sudden pain in the left iliac region, accompanied by nausea and faintness. At

that time she had missed her monthly period for fourteen days. On examination there was an elongated fluctuating swelling in the position of the left Fallopian tube. As her symptoms pointed to the leakage of the tubal contents into the peritoneum, I recommended an abdominal operation. At the operation the dilated tube was removed. It contained an ovoid blood-clot with a small central cavity. A careful examination of the clot and the tubal wall failed to detect chorionic villi. Some clots found in the peritoneal cavity were also examined. This case was probably one of hæmatosalpinx not caused by tubal pregnancy.

Mr. Butler-Smythe pointed out that in Mr. Bland Sutton's valuable work on 'Fallopian Gestation' it was stated that the most likely place for chorionic villi to be found was at that spot where the mole was most adherent to the tube. But in his case, related that night, many sections were cut at that point in all directions, and yet not a single villus could be discovered. On the other hand, the specimen exhibited that night was cut for him by his colleague, Mr. Corrie Keep, and showed chorionic villi in abundance. It certainly was a fact that a section cut from any part of the mole might show several villi, and yet section after section might be cut in the most likely situations without exhibiting a single villus.

Dr. Eden said that a good deal of care was necessary in examining masses of blood-clot for chorionic villi; he had known fibrin rings and sections of the tubal plicæ exhibited as chorionic villi. It must be remembered that villi embedded in blood-clot differed widely from healthy villi in appearance; at the same time they might be preserved in their degenerated state for very long periods, and could be readily recognised as such in old clots by practised observers. If a careful search had been made in Mr. Doran's specimen and no villi were found, he thought it pretty certain that it was not a mole, although of course negative evidence was never so satisfactory as positive evidence.

The President was glad that Mr. Bland Sutton had called attention to the question as to what happened in cases of pelvic hæmatocele from incomplete tubal abortion, where the tubal mole remained in the tube after the hæmatocele had undergone absorption. It was a question on which more light was needed, and any well-observed cases bearing upon it would be most valuable. Did the tubal mole gradually undergo absorption? If so, what length of time was required for the absorption to take place? To what extent was the patient inconvenienced and incapacitated in the meantime? Was the presence of a tubal mole under such circumstances a source of danger to health? These questions could not as yet be answered because we had not a sufficient number of observations. He himself

was disposed to agree with the author of the papers that an unremoved or unexpelled tubal mole was apt to cause trouble, and he was not at all sure that it was not a source of serious danger to the patient. He had met with a case in which the mole-containing tube had apparently become twisted on its axis, with results similar to those which occur when the pedicle of a small ovarian cyst becomes twisted. He had also seen quite recently a case in which there was reason to believe that the mole had become septic and had suppurated, setting up severe septic peritonitis. These cases seemed to show that the condition was not unattended with danger to health and even to life. The point was one of great importance as bearing on the treatment of pelvic hæmatocele. Mr. Bland Sutton had done well to call attention to the rapid diminution in the size of the uterus after delivery as a help towards understanding how a Fallopian tube from which a mole had been expelled might present the appearance and characters of a normal or nearly normal tube, as in a case he (the President) had related at the May meeting.

In reply to Dr. McCann, he said that tubal abortion was usually accompanied with a slight continuous flow from the uterus of dark fluid blood, and that free hæmorrhage with or without the passage of clots was exceptional.

Mr. Bland Sutton in reply contended that it was idle to deny that the clot in question was the product of tubal pregnancy. A tubal mole with such definite characters indicated that it was the result of tubal pregnancy as clearly as a potato was known to be the product of *Solanum tuberosum*. If such a clot had been expelled from the uterus no obstetric physician would deny that it was the product of an oösperm. Why, with our present knowledge of tubal pregnancy, should its nature be regarded as doubtful because it came from the tube? Such clots existed in no other region of the body where bleeding was common, *e. g.* brain, lung, bladder, kidney, or tunica vaginalis testis, or even in a sacculated aneurysm. The difficulty of detecting the villi was probably due to the fact that the mole had been extruded from the tube many weeks. If Mr. Doran absolutely based his objection on the non-detection of villi it would be a judicious measure to section the whole chorion, and the whole length of the Fallopian tube; this procedure would occupy the laboratory assistant several days; it was, however, well worth carrying out.

In reply to Mr. Targett he observed that in some cases of tubal abortion villi were demonstrable in the tube, in other cases the tubal mucous membrane was quite smooth.

DECEMBER 7TH, 1898.

C. J. CULLINGWORTH, M.D., President, in the Chair.

Present—47 Fellows and 3 visitors.

Books were presented by Dr. Venn, the Medical Society, the Clinical Society, Société de Médecine de Rouen, the Gesellschaft für Natur- und Heilkunde in Dresden, Edinburgh Obstetrical Society, Dr. Cullingworth, Dr. Whitridge Williams, University College Staff.

Haydn Brown, L.R.C.P. (Buckhurst Hill, Essex), was declared admitted.

John Shields Fairbairn, M.B., B.Ch.Oxon.; Henry Gervis, M.A., M.B., B.C.Camb.; John Preston Maxwell, M.B.Lond., F.R.C.S., were proposed for election.

A SERIES OF MOUNTED SPECIMENS, SHOWING THE DEVELOPMENT AND RETROGRESSIVE CHANGES IN THE GRAAFIAN FOLLICLE.

Shown by Dr. WILLIAM HUNTER.

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(1) LARGE SOLITARY SUBPERITONEAL FIBROID TUMOUR OF THE UTERUS, AND (2) UTERUS WITH MULTIPLE FIBROIDS; BOTH REMOVED BY LAPAROTOMY.

Shown by Dr. LEWERS.

DR. LEWERS showed (1) a large solitary subperitoneal fibroid tumour of the uterus (9½ pounds), successfully removed by laparotomy, with intra-peritoneal treatment of

the stump; (2) uterus with multiple fibroids (8 pounds), successfully removed by supra-vaginal hysterectomy, also with intra-peritoneal treatment of the stump.

He said that both as regards the history, symptoms, and signs, cases of large solitary subperitoneal uterine fibroid differed remarkably from the common cases where the uterus was the seat of multiple fibroids.

In the case from which his specimen of solitary subperitoneal fibroid was removed, for instance, the patient had been married ten years, and had had five children and two miscarriages, the last ten months prior to the operation. Menstruation had always been scanty, never lasting more than two days, and for ten months prior to the operation there had been complete amenorrhœa. The uterus was in no way deformed, except at the place at which the tumour was attached. The area of attachment was on the front and left side of the body of the uterus, and was about equal in area to that of a five-shilling piece. The sound passed only the normal distance. The left uterine artery was tied in two places, and the oozing surface constricted by several silk sutures passed rather deeply. The peritoneal flaps were then stitched over the stump. At the end of the operation the patient was left with a practically normal uterus, and with both ovaries. Dr. Lewers believed that if an opportunity occurred of examining the state of the parts, in two or three years it would puzzle anyone unacquainted with the patient's history to account for the abdominal scar. The patient made a perfect recovery. In the case from which the specimen of multiple fibroids was removed, on the other hand, the patient had been married five years, and had not been pregnant. Menstruation had always been profuse, and for three months preceding the operation there had been constant metrorrhagia. Here the uterus was generally deformed by the presence of the fibroids, and the sound passed seven to eight inches. Removing the "tumour" meant removing the body of the uterus in this case. This patient also made a good recovery.

INCARCERATED OVARIAN DERMOID REMOVED AT THE FOURTH MONTH OF PREGNANCY; DELIVERY OF A LIVING CHILD AT TERM.

Shown by Herbert R. Spencer, M.D., B.S.

The specimen is a multilocular ovarian dermoid tumour of the right side, containing three main loculi; two of these are more or less completely subdivided by septa, some of which have ruptured and are represented by ridges, threads, and spicules. It contained sebaceous material and brown hairs, which are seen to grow from the inner wall of the loculi. Its dimensions are $3\frac{1}{2} \times 3 \times 2$ inches. It was removed entire from a patient aged 22, who had had two lingering labours, terminating in the birth of living children. The tumour was known to be present at the last labour, sixteen months previously. During that pregnancy the patient had been seen by an obstetric physician and a surgeon, who had said that the tumour was of the size of a hen's egg, and advised her not to have it removed. In February, 1898, soon after the beginning of the third pregnancy, the patient had a great deal of pelvic pain and rather severe hæmorrhage, which threatened to terminate the pregnancy. In the fourth month the patient came home from the south of France for advice, being very ill and suffering a good deal of pain, which persisted till the operation. On May 28th, 1898, I saw the patient with Dr. Norwood Brown, and found the uterus four months pregnant, and the tumour incarcerated in the pelvis (occupying chiefly the left side of the retro-uterine pouch), tender, and apparently fixed by adhesions. [The tumour, small as it is, was, however, only *incarcerated* in the pelvis by the uterus, and there were *no* adhesions.] We strongly urged removal of the tumour, and, the patient consenting, I removed it by laparotomy on May 30th of this year. The operation was

very easy; it lasted thirty minutes. The pedicle (not twisted) was tied with silk. The fascia in front of the rectus was stitched with buried silk sutures. The recovery of the patient was quite uneventful. The highest temperature was 99·6° on the second day; after the third day it never rose above 98·8°. The silkworm-gut sutures were removed on the eighth day, union being perfect. The pelvic pain from which the patient had suffered completely ceased after the operation, and there was no subsequent hæmorrhage. On October 29th the patient was delivered, after a very easy labour, lasting three hours, of a living boy (born head first), weighing 9 lbs. 4 oz. The scar had not stretched at all. The patient got up at the end of the third week, and she and her child continue well.

The case shows that even such a small tumour may become firmly incarcerated in the pelvis as early as the fourth month of pregnancy, perhaps especially when it occupies the side of the pelvis opposite to that from which it grows, and thus is drawn obliquely by its pedicle against the promontory. It also shows that a small incarcerated tumour may give rise to serious troubles during the first half of pregnancy; in my opinion, whether it does or not, it should be removed. At full term the small size of this tumour might tempt the injudicious to endeavour to drag the child past the tumour by means of forceps or version—modes of delivery which, I believe, are never justifiable in these cases. A tumour with a shortest diameter of 2 inches (perhaps compressible to 1½ inches) will, while incarcerated in the pelvis, practically give rise to an extreme degree of pelvic contraction (2¾ inches conjugate and small transverse diameter), through which it will be impossible to deliver a full-sized living child unless the parturient canal becomes enlarged by the bursting of the tumour. The danger of this accident is illustrated by a specimen which has recently been presented to me, and which I exhibit to-night.

INCARCERATED OVARIAN DERMOID RUPTURED DURING DELIVERY BY FORCEPS AND VERSION, WITH FATAL RESULT.

Shown by Dr. Herbert R. Spencer (for Mr. James Jackson.)

This specimen was presented to me by Mr. James Jackson, who found it at the post-mortem examination of a patient who had been attended by another practitioner.

The tumour is an ovarian dermoid, measuring $4\frac{1}{2} \times 3 \times 2\frac{1}{2}$ inches. It is bruised at one part, and has a rupture about an inch in length, through which the contents (hair and fat) escaped into the peritoneum.

The patient from whom it was removed was twenty-seven years of age, and had had one child without difficulty four years previously.

In the second labour the membranes ruptured prematurely on a Tuesday, but no pains occurred till the following Saturday. On that day the doctor in attendance endeavoured to deliver with forceps; but owing to the obstruction formed by the tumour he could only apply one of the blades; he therefore turned and delivered the child (dead) with difficulty. On the following day the patient was very ill, and on Monday had signs of peritonitis, from which she died in the evening of the third day after delivery.

The post-mortem examination showed that the tumour had been ruptured, and the contents escaping had set up general peritonitis of an adhesive but not purulent character.

Dr. John Phillips had met a case in which the cyst had obstructed labour and necessitated its incision and suturing to the vaginal wall before delivery could be effected; a year later the patient was seized with a rigor and abdominal pain, and it

was found on operation that she had a large suppurating dermoid cyst, at the bottom of which and adherent to the old scar in the vaginal cul-de-sac, was a long coil of hair. The patient made a good recovery. Dr. Phillips had recently had an impacted dermoid complicating early pregnancy, which had successfully been removed.

Dr. Arthur Giles mentioned a case of an ovarian dermoid removed during pregnancy that was very similar to one of Dr. Spencer's. He first saw the patient when she was three months pregnant, and decided to wait and see whether with the progress of pregnancy the cyst would rise out of the pelvis sufficiently to warrant postponing operation till after confinement. Two months later the cyst was found still occupying the pelvis to the left and behind; and as the fundus was now well raised the pedicle had evidently become lengthened. He then advised operation, and had the advantage of the opinion of Dr. William Duncan, who took the same view. The cyst was removed by abdominal section, and turned out to be a dermoid. There was no interruption to pregnancy, and the patient was expecting her confinement shortly. The question of dealing with the cyst through the vagina was raised, but was decided against on the grounds of (*a*) the increased risk of bringing on a miscarriage; (*b*) the disadvantage, in case of miscarriage, of the wound situated in the parturient canal.

THREE CASES OF CONGENITAL TUMOUR AT THE INTERNAL OS UTERI CAUSING HYDROMETRA IN NEW-BORN CHILDREN.

By Herbert R. Spencer, M.D., B.S.,

Professor of Obstetric Medicine in University College, London; Obstetric Physician to University College Hospital.

The malformation I am about to describe was met with in three out of about a hundred uteri of new-born children which I examined some years ago. Two of them were briefly (in one case somewhat inaccurately) described in the catalogue of gynæcological specimens in University College Museum published in 1891 (Nos. 4063,

4063A). I am not aware of this malformation having been previously recorded, and wish now to give a more complete description of the specimens, with short notes of the fœtuses from which they were obtained.

CASE 1 (Fig. 1).—The child was a second twin, born dead as a shoulder presentation, the first twin (a male) having been born alive head first.

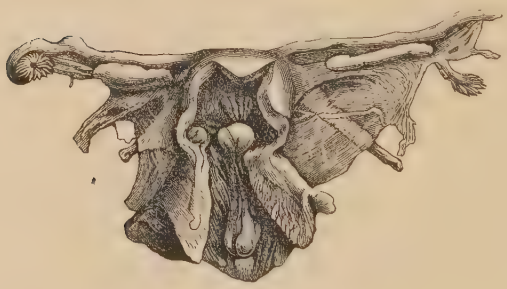
The hymen was well formed, and so distensible that the forefinger could be passed through the opening as far as the second joint without lacerating the membrane (a most unusual condition). The body of the uterus (see Fig. 1) was of nearly twice the normal bulk ; the *portio* projected for over a quarter of an inch into the vagina, which was very rugose, as is usual in new-born infants. On cutting open the uterus a slight smear of mucus was found in the cervix, but the body was dilated by a plug of yellowish viscid mucus as big as the end of the little finger. The lower end of this plug rested on a prominence—the tumour to which I wish to direct attention—which surmounted the anterior column of the arbor vitæ.

This anterior column was very marked, and lay somewhat to the right of the middle line ; from it the *plicæ* passed upwards and outwards. The little round tumour of the size of a small pea is situated at the internal os uteri. It is sessile though slightly constricted at its base, fairly smooth, but faintly furrowed upon its upper surface, and some of these furrows on the side of the tumour pass laterally over the anterior wall of the uterus in a transverse direction. The cavity of the body was considerably distended, its inner walls concave and fairly smooth : in the middle line running from the little tumour to the fundus was a marked but very narrow groove. It is obvious that the tumour has acted as a ball-valve, blocking up the internal os, and leading to dilatation of the cavity of the body by the retained mucus. The broad ligaments, ovaries, and tubes were normal. There was a well-marked hydatid of Morgagni

FIG. 1.

Uterus and appendages of a new-born child, showing the tumour at the internal os. The body of the uterus is dilated as a result of the obstruction to the outflow of mucus. ($\frac{5}{6}$ nat. size.)

FIG. 2.



Uterus and appendages of a new-born child, showing tumour at internal os and polypi in cervical canal. The right Fallopian tube is closed at its outer end and more slender than the left. The (?) congenitally displaced fimbriæ are seen attached near the outer end of the ovary. The body of the uterus is dilated as a result of the obstruction to the outflow of mucus. N.B.—In both these specimens, which have been kept in spirit, the tumour and cavity are smaller than in the recent state. ($\frac{3}{4}$ nat. size.)

on the right side. There were no other malformations in the body.

Case 2.—The infant weighed 5 lbs. 10 oz., and measured 18½ inches in length. It also was a twin, its fellow being a male of exactly the same size and weight. The uterus in this case exactly resembled that in Case 1, but the tumour was a little smaller. Dissection showed no other deformities in either twin. The placenta was situated low down, and gave rise to accidental hæmorrhage.

Case 3 (Fig. 2).—The infant weighed 7 lbs. 8 oz., and measured 20½ inches in length; it was not a twin. [There is, however, no note of the examination of the placenta and membranes for *fœtus compressus*, and the absence of a second fœtus cannot therefore be asserted with absolute confidence.] The mother was a primipara.

The body of the uterus (see Fig. 2) was of about twice its normal bulk; the cervix projected somewhat more than usual into the vagina. The vagina and portio vaginalis were less rugose than in the other cases.

The body of the uterus was dilated and filled with viscid greenish mucus. There was a tumour at the internal os, formed as in the other cases by the upper extremity of the anterior median column of the arbor vitæ, but in this specimen the column appeared to be divided by longitudinal grooves into three parts, which below swell out into polypoid growths at some distance above the external os. There was a median longitudinal groove in the body of the uterus extending from the tumour to the fundus, and on either side of it two grooves diverging from the tumour in the direction of the cornua. There was also in this case a slight enlargement of the posterior column of the arbor vitæ, shown in the figure on the left margin of the cut posterior wall. The left Fallopian tube was normal, the left ovary rather short. The right ovary was of usual length, but rather

slender. The right Fallopian tube ended blindly at its outer extremity, which was not fimbriated. Attached near the outer end of the right ovary was a plicated body, which appeared to be the congenitally displaced fimbriæ. Between this and the blind end of the tube was a pendulous structure, probably representing a hydatid of Morgagni. There were no other abnormalities in the body. A section of the tumour in this case showed the structure of cervical mucous membrane, the surface being covered with cylindrical ciliated epithelium, and being furnished with closely-set simple crypts lined with long cylindrical cells and goblet-cells. The tissue beneath the epithelium was loose in texture, and was made up of interlacing slender cells with oval or elongated nuclei. There were a few thin-walled vessels, but no clear evidence of muscular tissue in the tumour.

Apart from the congenital malformation of the Fallopian tube in Case 3, a noteworthy fact in the cases is that two of them occurred in twins, and that the fellow-twin was in each case a male.

The tumour at the internal os appears to be due to some fault in the fusion of the Müllerian ducts. It causes obstruction to the outflow of mucus from the body and hydrometra; it may, perhaps, subsequently cause pain during menstruation or at other times. Some uteri in new-born children have the cervical glands lined apparently with several layers of columnar cells (I exclude, of course, cases where this appearance is clearly due to the obliquity of the section), and I have on a very few occasions met with a non-malignant polypus at the internal os uteri in adults with a similar structure. It is, I think, possible that the persistence of the congenital tumour may explain these cases, which give rise to grave doubts as to their malignancy when they are examined with the microscope. I must admit, however, that the histology of the case examined does not support this view.

A valuable paper by Dr. Friedrich von Friedländer,

on "Some changes produced by growth in the child's uterus, and their reaction on subsequent function," has recently appeared in the 'Archiv für Gynäkologie.'* This important work is based upon an examination of 161 uteri from children of various ages from that of intra-uterine life up to twenty-four years. The author does not state how many of these were new-born, but he has observed the knob-like swelling of the median ridge, giving rise to dilatation of the body by retained mucus five times out of ninety-one uteri of children of various ages up to six years. The degree of dilatation was measured by a separation of the anterior from the posterior wall of from 2 to 5 mm. Further, the author states that no less than forty-two out of the ninety-one cases showed dilatation of the cavity of the body by mucus retained as a result of the above or other abnormality in the plication of the mucous membrane. I think that it may be doubted whether a separation of the walls by 2 mm. (one line) is sufficient to justify the term "dilatation," and that the term should be limited to cases in which the uterus assumes a well-marked globular form with concave internal walls.

Owing to the uteri in my cases having been opened while fresh, it is impossible to give an exact measurement of the antero-posterior diameter of the cavity of the body, but in one case the plug of mucus was of the size of the end of the little finger, and had, therefore, an antero-posterior diameter of about 10 mm. Dr. von Friedländer says that "the knob-like swelling of the cervical plicæ diminishes, and is no longer to be found after the eleventh year;" he, however, only notes having examined *thirty-four* uteri of girls between the ages of eleven and twenty-four. His drawings do not show any tumour of the shape or dimensions of those I have described, although the uteri of which he gives figures belonged to children of

* 'Archiv für Gynäkologie,' 1898, vol. xlvi, p. 634, "Ueber einige Wachsthums veränderungen des kindlichen Uterus, und ihre Rückwirkung auf die spätere Function."

from three to eleven years of age. His specimens appear rather as slender (sometimes almost thread-like) polypi, and he speaks of them as folds (Faltungen) of the endometrium. It seems difficult to believe that the tumours I have described can become obliterated by the growth of the uterus. Their subsequent history can, however, only be followed after an extensive series of careful post-mortem examinations of the uteri of girls, on the lines of the excellent work by Dr. von Friedländer. My present contribution to the subject is limited to a description of three of these congenital tumours at the internal os uteri, causing hydrometra at the time of birth.

UTERUS WITH INTERSTITIAL FIBROID FROM A CASE OF PLACENTA PRÆVIA CENTRALIS.

Shown by Robert Boxall, M.D., M.R.C.P.

The patient from whom this specimen was obtained was admitted to the General Lying-in Hospital in her second confinement, and died forty minutes after delivery from ante- and post-partum hæmorrhage. In her previous labour, three years ago, a large fibroid, then thought to be submucous, was noticed in the lower pole of the uterus on the left side, and convalescence was complicated by the formation of an abscess on the right side, which eventually burst into the vagina. She afterwards became an out-patient at Guy's Hospital under Dr. Horrocks, who noted that the cervix had a deep tear on the right side and was drawn over to the same side of the pelvis. The interest of the specimen lies in these lesions. A fibroid in an atrophied condition exists in the wall of the lower part of the uterus on the left side. A section of the fibroid under the microscope shows that some degree of hæmorrhage has taken place into the

tissue, a change which in the fresh state was apparent to the naked eye. On the right side the cervix is deeply torn, and in one place perforated, no doubt indicating the spot where the abscess discharged. An account of the previous labour has been published by Dr. Ezard in the 'West Kent Medico-Chirurgical Transactions,' 1896. The fibroid, which from the account given was large enough to give rise to considerable difficulty in the first labour, must have shrunk considerably since.

STUDIES IN OBSTETRICS.

By C. F. Ponder, M.B.Edin. (Kalimpong, Bengal).

(See the 'Transactions of the Edinburgh Obstetrical Society,' vol. xxiii, p. 148.)

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204. *Küstner*, Ueber die Freund'sche Operation bei Gebärmutterkrebs.
207. *Gottschalk*, Ueber den Einfluss des Wochenbetts auf cystische Eierstockgeschwülste.
210. *Arx*, Ueber die Ursachen einer natürlichen Lage des Gebärorgans.
213. *Feis*, Ueber die Komplikation von Schwangerschaft, Geburt und Wochenbett mit chronischem Herzfehler.
219. *Littauer*, Leipziger 'Geburtshilfliche Statistik' für das Jahr 1894.
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RULES AND REGULATIONS

to be observed by Midwives holding the Certificate of the

OBSTETRICAL SOCIETY OF LONDON.

The Certificate confers on the Midwife no right to act as a Medical Practitioner.

MIDWIVES holding the certificate of the Obstetrical Society of London must conform to the following rules and regulations :

Section A.—General.

1. The instruments and other requisites which a midwife must take with her when called to a confinement are the following :

(*a*) An enema-syringe, a douche apparatus with vaginal nozzle (preferably of glass), a catheter,* a pair of scissors, a clinical thermometer, and a nail-brush.

(*b*) An efficient antiseptic for disinfecting the hands, &c., such as corrosive sublimate (perchloride of mercury) or carbolic acid. Corrosive sublimate may be carried either in the form of powders† or

* A plated metal catheter can be obtained for the sum of eighteen pence.

† These should be carried in a box containing twelve antiseptic powders, each powder consisting of ten grains of corrosive sublimate (perchloride of mercury), fifty grains of tartaric acid, and one grain of cochineal. The box should be labelled "The Corrosive Sublimate Powders—Poison."

in the form of tablets or soloids. Great care must be taken that they are not left lying about (lest they be swallowed), and that they are thoroughly dissolved. As an alternative carbolic acid may be used. It must be carried in the form of liquefied carbolic acid in a four-ounce bottle labelled "Poison" (see page 371).

(*c*) An antiseptic for douching in special cases. This may be carried in the form of liquefied carbolic acid, creolin, or liquor iodi (see page 371).

(*d*) An antiseptic lubricant for smearing the fingers, catheters, douche nozzles, and enema nozzles before they touch the patient. This may be carried in a bottle in the form of corrosive sublimate glycerine. The bottle should hold two ounces, and should be filled with glycerine containing half a grain of corrosive sublimate to the ounce. This solution is of about the strength of one part of corrosive sublimate to one thousand parts of glycerine (1 in 1000).

It must be remembered that the above antiseptics are deadly poisons, and must be kept in the midwife's own charge.

2. Midwives must keep themselves scrupulously clean, and avoid contact with cases of infectious disease, decomposing substances, and discharges from the midwife's own nose, eyes, ears, or mouth (including discharges from foul teeth and tooth-plates), and foul discharges of any other kind, so that their fingers, appliances, or clothes may not harbour any infective material which might be conveyed to the lying-in woman during examinations, and thereby produce puerperal fever. Midwives are strenuously enjoined before touching a lying-in woman to wash and disinfect their hands and instruments in the manner to be presently described.

3. If a midwife has charge of a lying-in case she must not leave the patient after the commencement of the second stage, and she must stay with the woman at

least one hour after the expulsion of the afterbirth in a normal labour. In cases of abnormal labour, or in threatened danger, she must always await the arrival of the doctor, remain with the case as long as he thinks necessary, and faithfully carry out his instructions.

4. In cases of threatened danger or of abnormal conditions occurring in women either pregnant, in labour, or lying in, or in their new-born children, or on the sudden death of a pregnant or lying-in woman, the midwife must insist upon a registered medical practitioner being called in at once.

5. In the case of a child (after the sixth month of pregnancy) being born apparently dead and without any signs of putrefaction, the midwife should, until the arrival of a medical practitioner, carry out for at least half an hour, or until the child breathes regularly, the methods for resuscitation which have been taught her.

6. On the birth of a child which is feeble or in danger of death, it is the midwife's duty to inform one of the parents of the child's condition in case they wish it to be baptised. In case of necessity the child may be baptised by the midwife or any other person.

7. The midwife is responsible for the cleanliness, comfort, and proper dieting of the mother and child during the lying-in period, which shall be held, for the purpose of these regulations and in a normal case, to mean the time occupied by the labour and a period of ten days thereafter.

8. A "case of normal labour" in these regulations shall be held to mean a labour in which there are none of the conditions specified in Section C (page 373).

Section B.—Instructions for Midwives.

Precautions to be observed by the midwife to avoid carrying infectious diseases, especially puerperal fever :

1. The midwife must be scrupulously clean in every

way, because the smallest particle of decomposing matter may set up puerperal fever.

It is particularly dangerous for a midwife who is attending a case in which there are foul-smelling discharges, to go direct to another case without first thoroughly cleansing and disinfecting her hands and arms and such appliances as she may have had occasion to use.

Unless the cleansing process be thoroughly carried out, there will be, even after a healthy confinement, remains of blood, lochia, or liquor amnii on the fingers, and especially under the nails, which will there undergo decomposition, and so become dangerous to the next patient attended. The midwife must, therefore, keep her nails cut short, and preserve the skin of her hands as far as possible from chaps and other injuries.

She should wear a dress of washable material, and over it a clean white or macintosh apron; it is best to have the sleeves of the dress made so that the midwife can tuck them well up above the elbows.

2. Before touching the genital organs or their neighbourhood the midwife must disinfect her hands and arms as follows:—The hands and arms must first be scrubbed with soap and water, the nail-brush being used for the hands and nails, particularly the grooves round the roots of the nails. The soap and water must then be rinsed off in clean water, and the hands soaked for a full minute in the corrosive sublimate solution. The hands must be well cleansed and must be soaked in the corrosive sublimate solution before each examination.

3. No more internal examinations should be made than are absolutely necessary.

4. Antiseptic solutions:

Corrosive Sublimate Solution.—If the corrosive sublimate powders are used (see foot-note, p. 367), dissolve one powder thoroughly in a pint of warm water. If corrosive sublimate tablets or soloids are used, *read carefully the directions on the label,*

and dissolve thoroughly in warm water as many as will make a solution of one part of corrosive sublimate in one thousand parts of water. A corrosive sublimate solution being highly poisonous must in no case be used for *douching* purposes except under direct order from a registered medical practitioner (see Section A, paragraph *b*).

Carbolic Acid Solution : (*a*) *Strong* (1 *to* 20) *solution for disinfecting the hands, arms, and metallic instruments.*—Dissolve one ounce of pure liquefied carbolic acid in one pint of hot water with thorough stirring. This solution must not be used for douching purposes.

(*b*) *Weak* (1 *to* 80) *solution for douching the vagina.*—Dissolve half an ounce of pure liquefied carbolic acid in one quart of hot water with thorough stirring. This solution must be made in a jug or basin and poured into the douche can. It is dangerous to mix the solution in the douche can.

N.B.—Pure liquefied carbolic acid is corrosive and *highly poisonous,* and must be carefully kept in a coloured poison bottle bearing a poison label (see Section A, paragraph *b*).

Iodine Solution.—Dilute one teaspoonful of liquor iodi with a pint of tepid water (see Section A, paragraph *c*).

Creolin Solution.—Dilute one teaspoonful of creolin with a quart of warm water (see Section A, paragraph *c*).

NOTICE.—Not less than two quarts of solution should be used for douching the vagina.

5. *Disinfection of Instruments :*

(*a*) All glass or metal instruments must be boiled in a covered vessel for at least ten minutes.

(*b*) All instruments which would be injured by being

boiled must after use be thoroughly cleansed with soap and water, then thoroughly rinsed in clean water, and afterwards left lying as long as possible in corrosive sublimate solution (1 in 1000).

6. *Disinfection of the Room :*
The midwife must remove soiled linen, blood, fæces, urine, and the placenta from the neighbourhood of the patient and from the lying-in room as soon as possible after the labour, and in every case before she leaves the patient's house.

7. *Disinfection of the Patient :*
Before making the first internal examination, and always before passing a catheter, the midwife must wash the patient's external parts with soap and water, and then swab them with corrosive sublimate solution (1 in 1000). For this purpose, and for washing the external parts immediately after labour and during the lying in, absorbent wool must be used, and on no account ordinary sponges or flannels.

8. *Disinfection of the Infant's Eyes :*
As soon as the child's head is born, and if possible before the lids are opened, its eyelids should be carefully wiped with pledgets of absorbent wool soaked in corrosive sublimate solution (1 in 4000),* and as soon as practicable after birth a few drops of the above solution should be dropped into each eye.

9. A midwife may administer or order only such ordinary remedies or drugs as may be required during or after a normal labour.

10. Whenever a midwife has been in attendance upon a patient suffering from puerperal fever, or from any other illness supposed to be infectious, she must disinfect her

* This solution is made by adding three parts of water to one part of the already prepared solution of corrosive sublimate (1 in 1000).

hands and all her instruments, and have her clothing thoroughly disinfected before going to another labour.

Section C.—Concerning the Summoning of Registered Medical Practitioners.

1. A midwife must, in all cases of illness of the patient or any abnormality occurring during pregnancy, labour, or lying-in, as well as in illness of the child, request the patient and her friends to send for a registered medical practitioner. She must under the following circumstances more particularly insist upon a registered medical practitioner being called in:

(*a*) *In the Case of a Pregnant Woman:*

(1) When she suspects a narrow pelvis.

(2) When there is hæmorrhage.

(3) When the pregnancy presents any other unusual feature (as, for example, excessive sickness, persistent headache, dimness of vision, swelling of face and ankles, difficulty in emptying the bladder, large varicose veins, hernia), or when it is complicated by fever or any other serious condition.

(*b*) *In the Case of a Woman in Labour:*

(1) In all cases of presentation of the afterbirth, face, arm, shoulder, or navel-string; and of the breech or feet in all first labours; and in all cases of flooding and convulsions; and also whenever there appears to be insufficient room for the child to pass, or when a tumour is felt in any part of the mother's passages.

(2) If the midwife when the cervix has become partially dilated is unable to make out the presentation, or finds that no progress is being made.

(3) If there is loss of blood in excess of what is natural, at whatever time of the labour it may occur.

(4) If the placenta is not expelled within an hour after the birth of the child, even if no bleeding has occurred.

(5) In cases of rupture of the perinæum or other serious injury of the soft parts.

(c) *In the Case of Lying-in Women and in the Case of newly born Children:*

Whenever, after delivery, the progress of the woman or child is not satisfactory.

2. When a midwife sends for a doctor she must state in writing the condition of the patient and her reason for sending.

July, 1898.

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